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OBSERVATIONS on SELECT SUBJECTS in SURGERY; *communicated by* MR. W. SIMMONS, *of Manchester.*

ON A CASE OF ABSCESS OF THE LIVER.

INFLAMMATION of the Liver is not an uncommon distemper, and is frequently brought on by excess in the use of fermented liquors. As in other parts of the body, it is here obedient to the several terminations of inflammation; but the one by abscess is to be deprecated, as little less alarming than the original malady. I know not whether it be sufficiently in evidence at present, that, in the suppurative stage, a difference of result may be expected, as the exciting cause is external or internal, or as the abscess is situated upon the surface or in the substance of the viscus; but as the point must eventually be determined by the preponderance of facts, it may not be useless to record the one following.

A chair-maker, of middle age, was employed for nine months together in boring circular holes in the feet to receive the spindles, by which the fore and hind feet of a chair are fastened. In this occupation, the head of the brace or borer had pressed upon the pit of the stomach; and, at length, produced inflammation and suppuration in that portion of the liver lying under it. Of the early circumstances the man himself gave a particular and distinct account; and subsequently report and opinion of his physician, left no room to hesitate of the nature of the case. The enlargement of the belly was chiefly confined to the right side, though latterly it had spread a good way, and in every part a deep seated fluctuation was distinctly perceptible.

Lest a spontaneous rupture might occur, and the matter escape into the abdominal cavity, it was advised in consultation to make an opening without delay. The parietes did not any where protuberate, and in making it, therefore, I pro-

I proposed to approach the seat of the complaint. With this intention, the incision was begun at the pointed extremity of the cartilago ensiformis, and continued downward in the line of the navel to the extent of four inches. An aperture was next made into the containing cyst, and a blunt pointed bistoury introduced, to enlarge it as quickly as possible to the capacity of the external wound. The matter, neither thin nor discoloured, then streamed out very copiously; not less than a gallon of which was caught in a large wash-hand bason, and at least two quarts more were spilt upon the floor of the operation room. He was greatly relieved by the discharge, but as the small lobe of the liver lay conspicuous at the bottom of the wound, the expectations of recovery were very moderate. Light dressings however were applied, and the lips, brought almost in contact, were kept from receding by means of adhesive plaster; and, besides these, the customary precautions after a capital operation were duly regarded. Whatever apprehensions of danger might be justly formed, the consequent symptoms were at no time alarming, and in two months, the discharge of matter having ceased, the wound was permitted to close. Two years afterwards, I had occasion to know that the cure was permanent; nor, in the site of the incision, was there any disposition to hernia. The exposed portion of the liver granulated in a manner more beautiful than I ever saw in any other part of the body.

On the Incontraction of an Artery.

In his late work on the diseases of the knee-joint, Mr. Russell has described a complaint which he has been pleased to call, "an uncommon disease," and Mr. Hey has since published many cases of it under the title of "Fungus hæmatodes." Hitherto my own experience has been very limited, for I have seen only two cases; but as those have impressed me with an opinion of the nature of the distemper different from either of the above gentlemen, it may not be altogether useless to relate it. The disease is however less novel than had been imagined, as, in his Remarks on Fractures, Mr. Pott had described it, and assigned a *bursten*-artery for the cause. Of those two cases, which I have seen, one only fell under my own management, and in that amputation was performed with success. It occurred in a young gentleman, who ascribed it to an over exertion in jumping, as he was sensible of something giving way at the time in his right leg, and, soon after, it began to tumefy in that part. This happened eighteen months

months before I saw him, during which the swelling had progressively augmented in bulk. At that time, it extended from just below the knee to a little above the ankle, and bulged forward considerably; but, though resisting, neither fluctuation nor pulsation could be distinguished in it. From this account it will appear, that there was a good deal of obscurity about it, which it was my first object to remove. To this end the cavity was laid open by a longitudinal incision, which gave vent to a prodigious collection of a gelatinous substance, and exposed the bottom and sides, of which the interosseous ligament constituted the former; and the inner surface of the tibia and fibula, denuded of periosteum, served for the latter. But nothing like muscle could be found, the whole forming one homogeneous mass. As an opinion had arisen that the disease was an aneurism, the anterior tibial artery was sought for, but the trunk of it was destroyed, leaving only just enough after it had passed through the ligament to apply a ligature. This, and several others, the orifices of which were open, were secured in that manner, and great hopes were then entertained of saving the limb. But, on removing the tourniquet, the effusion of blood from the general surface was so great, as to threaten with immediate danger, which, together with the probability of extensive exfoliations of bone, and of a long and exhausting discharge, rendered it expedient to have recourse forthwith to amputation, which was accordingly performed.

My opinion of this malady at that time, and better information has only served to confirm me in it, that by jumping the anterior tibial artery was ruptured, and never afterwards perfectly closed. Any slight exertion would therefore open it again, and occasion a fresh effusion of blood. Nor is this at all extraordinary, for we know that it is sometimes necessary, long after an amputation performed even in consequence of an accident, to apply ligatures still higher up upon the trunk of the artery to stay a more recent hæmorrhage, and sometimes even to repeat it. In one instance indeed the patient was nearly exhausted by its frequent recurrence, and the propensity to hæmorrhage could only be corrected by a diet of milk and vegetables; and several I have known sink under it. From the blood thus effused, the serous portion and red particles are absorbed, leaving the coagulable lymph behind to form the contents of the sac. But as the growth of the tumour, as in the above case, may be slow, it is probable that the quantity of extravasation is limited at each time,

 not

not only by the degree of impelling force, but contrariwise by the incumbent weight and exterior resistance, causes which in their operation would also gradually dwindle both by a partial absorption and an enlargement of the parietes.

The next symptom recorded by Mr. Russell and Mr. Hey that I shall attempt to explain, is a caries of the adjacent bone or bones, an effect which we know may be produced by pressure, even supposing the extravasated lymph not to possess a dissolvent property. However, from the rapidity of the process in general, I should be disposed to favour this opinion; for, although in my own case the bones were merely bare, in the other that I saw, the boney structure within the sphere of its agency was almost entirely destroyed in about nine months.

The issue of arterial blood, which is observable upon parting the masses of viscosity, has led to an opinion that they have an organized structure, but I think erroneously; for, if we suppose the blood to have been recently effused, without undergoing any change, and only to have found a vent by the separation, how easily is that phenomenon resolved? I certainly saw nothing like organization in either case that fell under my observation; and, from every consideration of the subject, I cannot yield assent to the existence of it, until injections have fully established the fact.

The last symptom of which I shall offer an explanation, is the absence of all pulsation in the tumour. And, if we consider the undilated state of the artery, and the thickness of the substances interposed between it and the hand, it can hardly be expected that its motions should be perceived. Indeed, it is rather probable that the sides of its opened extremities are brought nearly together by the causes before mentioned, which would diminish the force of its action correspondently.

In the advanced stage of this complaint, our only resource is in amputation; and even this may fail, if the whole of the arterial trunk is morbidly altered. But, when the cause is external, the early securing of the artery before much mischief is done to the contiguous parts, may be the means of preserving the limb, and give as effectual security against the recurrence of hæmorrhagy, as the tying of the artery after amputation.

On an Incarcerated Hernia during Pregnancy.

A lady, who had been long tormented both with an umbilical and femoral hernia, the latter of which had been often

often strangulated and reduced; in the year 1792, experienced a fresh descent, which proving intractable to the usual means, my assistance was requested. For two whole days every exertion was made to return it, but without success, so that on the morning of the third, she submitted to the operation. About six inches of the ileum were protruded, and a good deal discoloured; however, soon after the replacement, she grew tolerably easy, and in a little while had a motion, which afforded much relief. Afterwards, the symptoms gradually abated, and the wound uniting by the first intention, she was confined only for a few weeks. The only thing remarkable in the herniary sac was the convoluting upwards of the intestine, in consequence of which the portion first protruded was opposed to the efforts by the taxis, and consequently the reduction could not be accomplished in that way. But, during her recovery, there was reason to believe that she was two months gone with child at the time of the operation; and, seven months from that juncture, I delivered her of a fine healthy girl, after an easy and natural labour.

That during the incarcerated state of the intestine, the almost incessant vomiting, the attempts at reduction in every variety of posture, the continuance of cold applications and even ice to the tumour, the clysma fumosum, and other means, and lastly, the operation itself, should not have produced abortion, is indeed extraordinary, especially when we consider how trifling is the cause of it in many instances, and, when once formed, how difficult is the habit to be conquered.

On a Wound of the Trachea.

While some practitioners have looked upon a wound of the trachea as being of little moment; others have regarded it as certainly mortal. Probably both those opinions are in the extreme; because many recover after such an accident, though it is never to be lightly treated. When the inflammation spreads from the wound down the trachea, it produces an extreme degree of danger, a source of it that has not I think been sufficiently insisted upon, on which account I shall subjoin a case that may furnish an instructive example.

A respectable young woman had nearly divided the trachea with a very sharp knife, in a paroxysm of insanity; and, although neither of the carotids was wounded, she lost a good deal of blood. Assistance being at hand, the borders of the external wound were held in contact by a

couple of sutures, till I could see her a few hours afterwards, when she was perfectly sensible, and her mind was tolerably composed. Her head was now inclined forward upon the chest as far as it conveniently could be, and secured in that position by proper bandages. Another suture was also added, more effectually to close the external wound, and over all was given the additional security of adhesive plasters. No symptom of alarm occurred during the first three days; but, early on the fourth, she was seized with the croup. I saw her in the afternoon, and immediately bled her *ad deliquium*, and as soon as she was a little recovered, half a score leeches were applied to the nape of the neck. The symptoms were nevertheless urgent next morning, and, as the pulse would bear it, I bled her again to the former effect. A large blister likewise was laid between the shoulders after the first bleeding, and another upon the sternum after the second. The bowels also were freely emptied by calomel; and fomentations to the feet, and other auxiliary means, were duly persisted in. However, on the third day from this seizure, there did not appear to be the smallest chance of her recovery; but, on the fourth, she began to expectorate; and thence forward the symptoms gradually subsided, and in three weeks the wound was completely healed.

I never saw a case of croup more distinctly marked than this, and it yielded to a similar method of treatment, except in the use of emetics, which, for reasons too obvious to need mentioning, could not here be given.

Although Bronchotomy is an operation recommended on several occasions, yet I have known no instance of the performance of it on the living subject. In the advanced stage of the croup, where benefit has been expected, in my opinion, no solid advantage can be derived. But as the objections which I have to offer are not new, and are so well set forth in Dr. Friend's History of Physic, Vol. I. p. 203, Ed. 3, I trust it will not prove unacceptable to read the passage in this place. It stands thus: "We see how conversant *Paulus* was in the most difficult operations of surgery; and as he seems to understand the nature of the cases he treats of, so we shall find him no less well acquainted with the manner of curing them. I must observe further, that there are some operations he gives an account of, which are neither described nor recommended by any author now extant before him, one of which is *bronchotomy*, or opening the

wind-pipe

wind-pipe in a violent *quinsy.* The manner of this process he takes from Antyllus, which, because it is new and exact, give me leave to transcribe here. Our best surgeons have described this operation; Antyllus particularly thus: We think this practice useless, and not to be attempted where all the arteries (I suppose he means all the branches of the aspera arteria) and the lungs are affected; but when the inflammation is chiefly about the throat, the chin, and the tonsils which cover the top of the wind-pipe, and the *artery* is unaffected, this experiment is very rational to prevent the danger of suffocation. When we proceed to perform it, we must cut through some part of the wind-pipe, below the larynx, about the third or fourth ring; for to cut quite through would be dangerous. This place is the most commodious, because it is not covered with any flesh, and because it has no vessels near it. Therefore bending the head of the patient backwards, so that the wind-pipe may come more forward to view, we make a transverse section *between two of the rings,* so that in this case not the *cartilage* but the *membrana,* which encloses and unites the cartilages together, is divided. If the operator be a little fearful, he may first divide the skin extended by a hook, then proceeding to the pipe, and separating the vessels if any are in the way, he must make the incision. Thus far Antyllus. Paulus adds, that he (Antyllus) thought upon this way of cutting, by observing, (when it was, I suppose, cut by chance) that the air rushed through with great violence, and that the voice was interrupted. When the danger of suffocation is over, the lips of the wound must be united by suturæ, (i. e.) by sewing the *skin* and not the *cartilage*; then proper vulnerary medicines to be applied. If these do not agglutinate, an incarnant must be used. The same method must be pursued with those who cut their throats with a design of murdering themselves."

"The operation we see is very clearly described, and some observations extremely proper are made upon it. C. Aurelianus ridicules this operation as fabulous, and as never practised by any of the ancients, and says it is only a rash invention of Asclepiades. *Areteus* mentions it too, but thinks it not warranted by experience; that the wound would endanger an inflammation, cough, and strangling; and if the danger of being choaked could be avoided by this method, yet the parts would not heal, as being cartilaginous! But *Paulus,* I think, answers these objections; and it is certain that some of the moderns have at-

tempted this practice with success: however, it is reckoned a dangerous undertaking." I shall add only one observation to this long extract, which is, that, if a simple incised wound could produce so violent an inflammation of the trachea, as the case of my patient has evinced, what must be the consequence of keeping a silver canula in the opening for several days together, after the operation of Bronchotomy?

I should now have concluded, but for a remark concerning union by the first intention after an operation contained in the next page but one of the same volume, that had escaped my recollection, although it is not quite relevant to the present enquiry. Still speaking of Paulus, whom Dr. Friend places in the year 620, he further observes: "An operation, never described before, is taking off the breasts in men, when they grow, as they sometimes do, to any immoderate bigness. In this case, a good deal of fat, he says, grows underneath, and resembles a woman's breast; and therefore ought to be removed by the hand of the surgeon. The process runs thus: "A lunar section must be made in the lower part of the breast, and after the fat is taken out the skin is to be sewed together. If it is very prominent, and hangs over as in women, there must be two lunar sections made, meeting one another at their extremities; and when the fat and skin are removed, the wound is to be sewed up; and if any thing be left behind, the operation is to be repeated a third time."

So much for union by the first intention, after a chirurgical operation, as a modern discovery.

On a Case of Ulcerated Leg.

In expressing my sentiments on the utility of the plaster-bandage in the treatment of ulcers, which are contained in a former number of the Medical and Physical Journal, my aim was to furnish the practitioner, whose opportunities of trying it are more limited than my own, with such practical intelligence as would conduct him to its successful employment. I have now to offer a solitary case, in order to impress several points on the reader's attention more strongly than before.

In the month of April last, a middle-aged single woman put herself under my care for ulcers upon her right leg of fourteen years standing, the condition of which may be in part conjectured by knowing that she had never obtained any regular assistance for them, but had contented herself with such applications as herself or her friends could

could suggest. The whole of the limb was nearly covered with ulcers, but the larger ones were situated above the inner and outer ancle, and occupied a space almost entirely around it. The lips of those two in particular were callous and inverted, and their surfaces, which were foul, yielded profusely a fœtid, sanious discharge. And, in addition to these, a deep-seated, indolent tumefaction pervaded the whole of the parts unulcerated. Her general health also was much impaired by the severity of the pain, the long and copious drain of fluids, and from the hopeless prospect before her; for she had long abandoned all thoughts of relief except from amputation. In this state of the case, the plaster-bandage was applied with care from the toes up to the knee, and over it were secured bolsters of cloths by means of a callico roller. She thought the pain rather increased by the first dressing, which was probably caused by the plasters not being drawn sufficiently tight, as, on persuading her not to meddle, she became easier after the second, and subsequently experienced little pain. From that time too the quality of the discharge began to ameliorate, and the deeply ulcerated excavations shewed a disposition to incarn; the callous borders were gradually flattened, and the general tumefaction subsided with haste. The skinning process then became active, and spread with celerity in the usual order from the circumference towards the centre, except in the inner large ulcer above described, which healed inversely though with not less rapidity, from the centre towards the circumference; and within the short space of a month, the whole was completely cicatrized.

This is the most striking example of the speedy cure of so inveterate an ulcer that I have met with, and it hath convincingly demonstrated to me that the production of new skin is wholly independent on any elongation from the border; for in that that healed from the centre, not less than the breadth of my hand had skinned over in a single night, and the new skin continued to expand until it came in contact with the original skin, with which it then conglutinated.

Let me now take occasion to observe, that since I have employed the adhesive bandage in this species of ulcer, the insertion of an issue towards the completion of the cure has been dispensed with. Nor have I observed any inconvenience to arise from the suppression of the discharge; indeed, it is probable from the sudden alteration

for

for the better produced by compression, that its condition depends most commonly at least on local causes.

On a Case of early Cataract.

It has been generally understood among practitioners, that the cataract occurring in early infancy does not admit of an operation before the approach of manhood. So prevalent is this opinion, that few, I believe, have undertaken it at an earlier period. But, if it should appear hereafter that it may be executed with success before so mature an age, as the advantages of a more early education would be thereby obtained, no further argument can be required to invite the performance of it. It is with great pleasure, therefore, that I submit the following case to the public attention.

Thomas Worrall, of Lichfield, a delicate boy, nine years of age, was admitted into the Infirmary on Monday the fourth of April last, for a cataract in each eye, that deprived him of sight. They were first discerned at about six months, and, before the end of the year, both the pupils were obscured. As his general habit did not require any preparation, the cataract in the left eye was depressed on the Saturday following, and, on the third day, he could distinguish objects. Nevertheless, at a subsequent examination, I was mortified to find that the cataract had risen again. But, as the dislodgment of it was complete at the time of the operation, and it was so lacerated that even a portion had escaped before the iris, no further attempt was made, and before the second operation the pupil was become tolerably clear. On that day three weeks the cataract in the right eye was depressed, and with complete success. In both these operations, I employed the needle lately recommended by Mr. Hey, whose commendation of it is here fully justified by the event, for neither inflammation nor pain ensued; and the only medicines my patient took, were an anodyne and an aperient draught after the first operation.

I must candidly confess, however, that it has less power than the spear-pointed needle, and is also less fitted to entangle the capsule when adherent; but these objections were successfully combated in the second operation, by passing the instrument quite through the upper portion of the cataract.

June, 1803.

On

On the Nature *and* Cure *of the* Puerperal Fever; *communicated by* Dr. Mossman, *of Bradford.*

IT has been observed that this fever appears on some of the days of the first fortnight after parturition; and that it is more or less fatal according as it takes an early or late date after that period. It exhibits the general characteristics of every proper fever, and is ushered in by similar phenomena. Its approaches are marked by head-ach, lassitude, rigors, flushings of heat, furred tongue, and thirst. Those symptoms are succeeded by nausea, sometimes bilious vomiting, sometimes diarrhœa, pain of the abdominal region, with a soreness extending to the uterus, and frequently to the loins and thighs. The pulse is from 100 to 150, generally feeble and soft; the skin is often dry; the urine is high-coloured, and passed in scanty portions. The most general period of termination is from the fifth to the eleventh or twelfth day. The causes immediately productive of the disease are said to be seven; and every cause has its advocates. If, however, even a very superficial observation shew those causes to be irreconcilable with the acknowledged features of the disease, it ought at least to impeach their validity, and to suggest the probability that they were separately sought up for the purpose of corresponding with a mode of cure previously settled. It is impossible, upon any other supposition, to conceive how causes so different in their operation, and so repugnant to the appearances, both before and after death, could have been adduced to account for the presence of *Puerperal Fever*.

The seven causes are the following:

An inflammation of the uterus.
An inflammation of the intestines and omentum.
A stoppage of the lochia.
A translation of the milk.
A suppuration of the omentum and pus in the abdomen.
Infection; and,
Lastly, *a state of the air favouring the production of this fever.*

If the first of these causes operated in the production of *puerperal fever*, it is proper to expect that *hysteritis* and this disease should correspond most exactly in their symptoms; in the degree of danger, in the mode of cure, and in the appearances after death. For, if a disease be nothing more than an aggregate of certain symptoms, constituting

constituting a whole, to which nosologists agree to give a name; and if the symptoms of *hysteritis* and *puerperal fever* be uniformly similar, there needs no other evidence to prove that they are the same disease. This doctrine, however, has never been contended for; nor could it be supported by facts. The symptoms of the two diseases are dissimilar: the degree of danger attached to each is very different; and so also are the remedies employed. I believe that *emetics* are more frequently recommended at the commencement of *puerperal fever* than any other remedy; and there is a very general agreement among authors respecting their beneficial operation. If this statement be correct, it militates strongly against *uterine inflammation* being the cause of *puerperal fever*; for if it were, a little reflection on the action of *emetics*, would serve to demonstrate, that, instead of being subversive of febrile phenomena arising from inflammation, it would very seriously aggravate the evil. No man, surely, would choose to give an emetic in cases of *thoracic* or *abdominal inflammation*.

The *bark of the cinchona too*, has been recommended above every other power, as an agent curative of *puerperal fever*. The evidence of its salutary influence is given by men of high consideration; and the authorities are so respectable in point of talent and experience, that it is difficult to put them down. If the *bark*, therefore, has been administered, and with great and good effect, even at the very commencement of *puerperal fever*, it certainly bears very strongly against the doctrine of *active inflammation* being the cause of the disease. I shall not adduce the evidence of opium, or draw any arguments from the successful administration of this remedy. The question is still agitated, whether its immediate operation be of *sedative* or *stimulant* agency. The experimenters take grounds so opposite, that, at present, it would be unfair to lay hold of either of its supposed powers to affect the present discussion. The enquiry is of high interest, and will, I have no doubt, be soon brought to an issue. There is one point, however, which I can urge with much firmness, and which to my mind affords very conclusive evidence indeed, that the appearances, after death, in cases of *hysteritis* and *puerperal fever*, are widely different. *Effusion*, *suppuration*, and *gangrene*, embrace, I imagine, the fatal phenomena of *inflammation*. The last of these is found present in fatal cases of *hysteritis*; but I do not know that dissection has ever shewn one well-authenti-

cated

cated case of *gangrenous uterus* where the patient perished by the *puerperal fever*. If such a case ever could be brought forward, I apprehend it would prove nothing; for there is an infinity of evidence to establish that *puerperal fever* has proved fatal, where dissection has not been able to shew *inflammation, gangrene*, or *any other morbid appearance of the uterus*.

The same arguments which have been employed to combat the opinion of *puerperal fever* arising from *uterine inflammation*, are also applicable, I think, to the subversion of the second cause which has been assigned; and in addition, it may be observed, that the pains of *intestinal inflammation* are more violent than those which are complained of in *puerperal fever*; and that *bleeding and blistering* have been found effective remedies in the *former*, but not in the *latter* disease.

The third cause, a *stoppage of the lochia*, seems altogether irreconcilable with the facts; for the circumstance of the *lochia* being sometimes absent and sometimes present at the attack, and during the progress of *puerperal fever*, shews their perfect independence of each other. This doctrine wants no additional refutation.

The fourth cause seems to stand on ground equally untenable with that now dismissed. The *milk fever*, (as it is called) appears with features very different from those of the *puerperal fever*. Independent, however, of this dissimilarity, there is one fact which seems decidedly fatal to the doctrine of *puerperal fever* arising from *a translation of the milk*, which is, that this *fever* has been found to attack those women *who have not*, as well as those *who have*, milk in their breasts.

To the fifth cause, it may be objected, that it is impossible for matter to form in the *omentum* so suddenly as to explain the appearances; that were even this supposition probable, the symptoms of *puerperal* do not in any respect resemble those of *hectic fever*; and what puts the matter beyond all doubt, that there has been no appearance of the formation of pus proved by dissection.

The fallacy of the sixth opinion is sufficiently evident from women being seized with *puerperal fever* in situations where contagion could not be supposed to operate or to exist; and from its not seizing upon women who have their abodes with those labouring under the disease. The poison of this contagion would surely not so speedily operate as to be productive of febrile phenomena on the second day; but if it were so pestilential, would it not more

more generally seize upon those exposed to its power? It is true, that there is strong evidence of *puerperal fever* being *epidemic* in hospitals and other places; but this proves no more, than that causes similarly circumstanced will very often produce similar effects. The anxiety of women at the period of parturition, the increased irritability of the system, the increased action of the absorbents, the secretion of milk, the too frequent additional degree of heat, applied both in the way of food and cloathing, will all, more or less, share in exciting febrile action, without seeking for any principle of contagion, or accounting for the appearances, on a supposition that certain states of the atmosphere are productive of the disease: and I am fully persuaded, that a cool air in a lying-in chamber, will very generally prevent, and its opposite very frequently induce, the phenomena of *puerperal fever*. It is impossible to account on any other principle for the well-known fact, that *puerperal fever* has been chiefly confined to small apartments and small hospitals; and that since the lying-in chambers have been made more airy and more commodious, and the hospitals larger, the disease has seldom, if ever, been epidemic. It is certainly true, that the most injurious atmosphere to lying-in women, is that created by their attendants.

I am now to speak briefly of the mode of cure, and finish the discussion by considering the *puerperal* as a *proper fever* only, and by advising the varied means which may be applicable to combat the varying symptoms of febrile action

Every author who has seized upon a proximate cause, explanatory of *puerperal fever*, has also laid hold of a correspondent mode of *cure*.

The instruments which have been chiefly employed are the following:

Bleeding, emetics, laxatives, opium, diaphoretics, camphor, blisters, the *warm bath,* and *bark.*

Bleeding.—If we believe the evidence of authors, this practice has been attended sometimes with beneficial, and sometimes with injurious effects. I am of opinion, however, that the employment of this power, in the commencement of any *fever*, unless where there is local pain, and the existence of inflammation positively ascertained, is always a hazardous, generally an injurious measure. The management of every proper fever, on its accession, requires much caution and skill; and perhaps none so much as the fever under discussion. It was a doctrine among the ancient

ancient Jews, "that in the blood was the life;" and were the same doctrine current now, I think with the ingenious JOHN BELL, that "it would be cruel and unnatural to disturb it." I have certainly observed that the commencement of *puerperal fever* is marked by features more strikingly phlogistic than those we meet with in most proper fevers. I am prepared to expect those appearances even in habits of extreme delicacy of fibre; but yet I think the employment of the lancet a most hazardous experiment; for I have observed, that after the third or fourth day, there is a greater prostration of strength, and a greater tendency to *typhus*, than in any other fever. Were I to follow this observation by enunciating an opinion, it would be this, THAT THE LANCET SHOULD NEVER BE EMPLOYED.

If any affection of the chest be connected with *puerperal fever*, or if there be any local pain, I am persuaded that these symptoms may be safely and speedily obviated by the application of *leeches* and *blisters*. In a subject of so much interest, I should wish to be correct; and I really think I have seen as much mischief occasioned by the loss of a few ounces of blood in the commencement of *puerperal fever*, as has followed the loss of the same quantity from the lungs in the last stage of *phthisis*.

Emetics.—How emetics operate in the incipient stage of *puerperal* and other *fevers*, I do not determine; but a very enlarged experience has, in my mind, placed their beneficial influence beyond a doubt. The *vinum ipecacuanhæ* is the instrument which I have for many years employed; and in numerous instances I have witnessed its powers to be apparently subversive of the phenomena of fever. In those cases where it has failed to produce this effect, it has, I think, generally lessened the febrile symptoms, and diminished the danger. I conceive *ipecacuanha* to be infinitely more safe, and more solutive of fever than *emetic tartar*. In *puerperal fever*, it is well known that the bowels do very generally partake of the irritability of the system; and the tendency of *emetic tartar* to pass off by the bowels is also well known. The extreme degree of sickness too, which *emetic tartar* frequently produces; and the alarming tumefactions of the abdomen which it sometimes occasions, demand, I think, much caution in its use.

Laxatives have been recommended, and they have been reprobated. Their warmest advocates wisely advise the mildest of all. The *oleum ricini* and the *sal catharticus amarus* are of this description, and have been administered

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for removing what has been called "the compressing fæces;" for abating the supposed inflammation, and for relieving the distressing head-ach. I am, however, clearly of opinion, that even those weapons, however mild, should be employed by a sparing and by a skilful hand. If they be administered, it should be in the most guarded doses; and their use should never be extended beyond the second or the third day. After those periods (and perhaps at all others in habits of much delicacy) it will be more safe to keep the bowels in a soluble state by means of clysters. It must have occurred to every practitioner to observe, that even small doses of a *cathartic*, in an irritable state of the bowels, have produced such commotion as occasioned much distress, and required potent means to allay.

Opium has also been administered in *puerperal fever*; and there is much evidence for and against it. I do not mean now to decide whether it possess *stimulant* or *sedative* powers; I shall only observe, that if it be *stimulant*, this effect is of short duration; for in a few minutes after it has been administered, I know that my patients experience its *composing* or *sedative influence*. I have, perhaps, taken as much *opium* as most men living, and whether I have taken it as an experimenter, or to allay pain (whatever its primary effect may be) I have generally felt its *anoydne* or *soothing* power in the space of a few minutes. In a map of the *materia medica*, I would lay this celestial drug and *digitalis* in the vicinity of each other. In *puerperal fever*, I think, I have administered *opium* with great and good effect. It diminishes the irritability of the system, more especially that of the stomach and bowels. It produces sleep, and excites a gentle perspiration. It lessens the velocity of the pulse; but as the pulse feels stronger, as it is slower, it is not possible to judge of the precise force of the artery without an invention for the purpose.

I have also witnessed the efficacy of *opium* in obviating or in relieving delirium.

Diaphoretics have been used, and have been advised by men of high authority. My own experience, however, has taught me to believe, that if they are employed, it should be at the commencement of the fever, and that the selection of the particular instrument employed should be made with great care, and used with great judgment: for if the power employed affect the stomach, or seize on the bowels, it will occasion much mischief, by increasing the irritability of the one, and the debility of the other. Again, if the instrument employed be successful, and if the discharge

from the skin be profuse, and at the same time not solutive of fever, it may impair that vigour which may be wanted at a more advanced period of the disease.

If the cure be attempted by the skin, towards the termination of the fever, it will, by its debilitating operation, infallibly hasten the fatal crisis.

Finally, from what I have observed, I am well persuaded, that if judicious management ever make *diaphoretic* remedies useful, it must be at the very commencement of *puerperal fever*; and that at a more advanced stage, they ought not, under any pretext, to be employed.

Camphor has also been administered for the cure of *puerperal fever*; but, as the general *experience* and *experiments* relative to the operation of *camphor*, in this and in other fevers, have not been able to settle its qualities, I think it ought not, by any means, to be admitted to a share of the treatment of a disease so frequently and so speedily fatal.

Blisters have had their friends and their enemies; and men of splendid reputations have spoke of them as a beneficial and an injurious application. This want of agreement seems to arise from an anxiety to effect a correspondence between theory and practice. The fact, I am persuaded, is this, that where *blisters* are indicated by the presence of local pain, their employment will seldom disappoint the practitioner; and I know from experience, that where any violent fixed pain has seized upon the abdomen, no power whatever will so speedy, safely, and effectually relieve it as the application of *blisters*; but I also know, that not only in *this*, but in all *proper fevers*, their employment is mischievous, unless indicated by local disease.

The *warm bath* had, and, I believe, still has its partizans; but practitioners, I think, ought to pause before they advise this measure; for much of its operation must hinge on a variety of circumstances; the degree of heat employed; the state of the patient's pulse previous to immersion; the stage of the fever; the habit of body; the duration of the operation; the degree of pain, tension, &c. &c.

It has been observed, that the *warm bath* produces a calm, and disposes to sleep; but is this the effect of exhaustion? Again, is the application of *warm water* primarily *stimulating*, and eventually debilitating in its operation? Further, has it been proved by experiment that the application of *cold water* is solutive of fever? Is it possible that opposite powers should be productive of similar effects?

Upon the presumption of local inflammation in the region of the uterus or abdomen, is heat, in any form, a judicious application? Do we introduce into the room of the patient cool air? Do we remove the bed curtains, and other furniture preventive of a free circulation? Do we remove the heat of the fire? Do we advise cool drinks and a cool regimen? Is the application of hot water either generally or partially, reconcilable with those maxims of cure, and those directions? Finally, have we observed the distressing paroxysms of *gout* and *rheumatism* very constantly increased by hot fomentations, or the application of heat in any form?

I am anxious to dwell on the mischievous effects which I believe to attach to this practice; for none is more common for nurses to employ, or for medical men to enjoin, then hot and moist application to the region of the *uterus*, when even there is any degree of pain or tension in the parts enclosing that organ. It is true in medicine, as well as in other departments of science, that errors are often found to maintain their ground because of their antiquity; for opinions, whether ill or well founded, are subverted with much difficulty, when they have received the sanction of time.

The last remedy which I shall notice is the *bark of the cinchona*. The *bark* has been employed at every period of the fever, and by some, even at its very commencement. There are few men, perhaps, in the profession, who prescribe more *bark* than I do; but I do certainly believe that the *bark* is never to be administered with advantage, seldom with impunity, either in this, or in any other fever, till a remission of symptoms, or a partial subsidence of febrile action has taken place.

It is well understood by every man who has employed the *bark* in the cure of intermittents, that it is never safely nor beneficially employed, till a compleat solution of the febrile phenomena has taken place. When the *cold* and the *hot stages* of *ague* have passed over, then, and certainly not till then, is the *bark* to be administered. In *puerperal fever*, independent of the certainty of its increasing the febrile action, such is the irritable state of the stomach and bowels, that if it be not rejected by the former, it will generally pass off by the latter. I know, by experience, however, that there is a period of this, and every continued fever, when the *bark* of the *cinchona*, judiciously combined and guarded, will exhibit effects strikingly salutary.

I have thus briefly noticed some of the instruments

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which are thought to hold the first ranks, as curative agents, in the treatment of *puerperal fever*; and I shall conclude this paper by subjoining a few remarks on the same subject.

By the information which I have collected from authors, from my medical friends, and from my own experience, I am strongly impressed that physicians have been led into error by not treating *puerperal* as a *proper fever* only. They have sought to establish specific causes, productive of specific phenomena, and they have exhibited much anxiety to have *puerperal* considered specifically different from every other *fever*. A close attention, however, to *puerperal fever*, will, I think, shew that it claims all the general features in common with proper fever, with the addition of some circumstance connected with, or consequent of parturition. Observation, practice, and dissection are corroborative of this opinion; and I am convinced that medical efforts would be more successfully directed, were they only exerted to assail symptoms, as is done in the management of proper fever.

I have already observed, that the first approach of *puerperal fever*, (even in constitutions of the greatest delicacy) is marked by a diathesis apparently more phlogistic, and by a greater degree of irritability, than what generally occurs in other fevers; I have also observed that there is a more early change of type, and more early tendency to debility, than commonly occurs in other cases; I have also stated, that the stomach and bowels are seized by a great degree of irritability; that there is generally a soreness of the abdomen, and region of the uterus more or less extended, and often accompanied by an inability to pass the urine. These may be denominated peculiarities; but, with the exception of these, a *puerperal fever* appears to me nothing more than a common continued fever, and ought to be similarly treated. Were it a *symptomatic fever*, as has been contended, the affection of the abdomen would precede the fever, which it certainly does not; and the fever would not be so suddenly fatal.

Upon the whole, I assail *puerperal* with the same confidence that I do any proper *fever*; and tied down by no theory, I combat symptoms as they occur. I employ a *cooling regimen*, *emetics*, and *laxative clysters*; I give *nitrous* medicines variously combined, with *acids* and *alkalis*, either in a *neutralized* or *effervescing* state. At a more advanced period, I give the *bark* of the *cinchona*, *always* combined with small doses of *opium*. If ever I employ *blisters*, I do it with a view to remove *local disease*, not to combat

the *general operations* of fever. This is briefly the practice I pursue; but as there is still no settled creed respecting the *proximate cause* and the *cure* of *Puerperal Fever*, I hope that some future inquiry will be excited respecting a disease so very fatal, and when so, attended with circumstances peculiarly distressing.

I am, &c.

Bradford, May 1, 1803. GEORGE MOSSMAN.

MEMOIR *on the* CAUSE *of* HUNGER *and* THIRST, *by* C. L. DUMAS, *M. N. I. Professor of Anatomy and Physiology, in the University of Montpelier, and lately communicated to the Medical Society of that Town.*

PHYSIOLOGISTS, says the author, have long looked for the proximate cause of hunger, and they have alternately attributed it to mechanical, physical, and chemical causes; to overturn all of which, it is only necessary to oppose the influence of habit, imagination, and will.

The friction of the membranes of the stomach in a state of emptyness; the compression of the nerves occasioned by the sinking in of the muscular fibres; the increased volume of the liver and spleen, owing to the afflux of blood in the splenic and hepatic vessels; the increase in quantity and acrimony of the digestive liquors, such were the explanations given to this sensation. The author observes, that however empty the stomach, its parietes cannot move or produce any friction so as to become painful; and he asks, what resemblance can this motion produce to the constant sensation arising from a want of nourishment? And though this sensation be produced by friction, he asks, how it happens that the quantity and choice of our aliment becomes limited? It should not, he conceives, be directed to the use of such or such a substance, to the exclusion of every other; and hence he concludes, that a physical or mechanical cause can never explain that taste or preference connected with this sensation.*

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* We are as little disposed to admit a mechanical or physical explanation of hunger as the author; but we cannot think him happy in the objections he brings against it, in as far as that taste or preference for particular food, as well as the limits of our appetites, depend for the most part on education, experience, and habit.

The same refutations, he thinks, overturn the opinions that hunger arises from a chemical cause, as the acrimony of the humours, &c. Admitting such explanations, we should ask, why we feel the sensation of hunger at particular hours? Why all those causes which give a new direction to our sensibility should suspend it, &c.?

The author thinks that the explanations given of thirst are not more satisfactory. This sensation is increased by all those causes which deprive the blood of its aqueous humours. The accumulation of these fluids in the great cavities, when the lymphatics are unable to re-absorb and throw them again into the mass of blood, is another powerful cause which increases the intensity of this sensation. Dropsical people reckon this among the most tormenting of their symptoms. Inflammatory diseases, but particularly inflammations of the viscera, are attended by thirst. The same circumstance characterises febrile diseases, hæmorrhagies, and all those that seem particularly to affect the vascular system.

The effects of thirst act particularly on this system, which is proved not only by the redness of the lips and tongue, the dryness of the palate, fauces, and throat, but also by the thickening and inflammatory disposition of the blood. Though the sensation of thirst increases rapidly, still it is supportable for a much longer time than that of hunger. The examples of abstinence from drink for a number of days or months are sufficiently numerous. After reflecting on the phenomena of hunger and thirst, I soon perceived, continues the author, the insufficiency of the hypothesis which I have just mentioned; I occupied myself daily in searching for an explanation more satisfactory. I tried to form an opinion free from all conjecture, and which should tally with those facts which I had been at considerable pains to collect; and, lastly, I wished to support my notions by some experiments which should establish their truth.

Hunger and thirst, says the author, suppose certain modifications of the nervous system; but here, as well as in other kinds of painful sensations, they are not always owing to the same cause, nor are they produced by some original alteration; hunger he conceives to relate more to the lymphatic system, thirst to the vascular; one is connected with a penury of nutritious fluids, the other with a superabundance; the first shews a diminution of force, the second an increase; the former is asthenic, the latter sthenic. In hunger, the absorbents act on the sensitive system. The blood-vessels act on this system in thirst. Ali-

ments become necessary to the renewal of the different substances of the body, as well as its forces, and to increase in the fluids the quantity of albuminous and fibrous parts. Drink becomes necessary to moisten the solids, to dilute the fluids, to temper the vital energy, to remedy the too great thickening, &c. of the concrete parts of the blood. The phenomena of hunger, and the great influence this has on the habits and passions, prove that it is a nervous affection immediately dependant on sensibility. Wounds of the brain and ligatures of nerves bring on a loss of appetite. Whatever engages the mind, whether painful or otherwise, suspends the sensation of hunger. The author tells us that these several considerations first suggested to him the idea, that hunger was but a modification of the nervous system; but the nervous system is closely connected with the lymphatic; and he conceives the same proofs are in support of his second notion, that hunger particularly affects the lymphatic system. These considerations he thought sufficiently interesting to merit further inquiry; and the author gives an account of some experiments which tend to throw light on his doctrine.

Exp. 1. A large dog had been deprived of all kind of aliment for eight days, during which time small quantities of opium were administered. At each dose, and for some hours after, the animal ceased to complain.

Exp. 2. A similar dog was made to fast for several days; he became furious; a mixture of opium and camphor was thrown to him, which he devoured immediately, after which he became more calm, which the author availed himself of to give the same mixture in smaller doses; by degrees the animal's hunger was so completely appeased, that he refused nourishment when offered.

Exp. 3. The author gave, in large quantity, oil emollient decoctions, warm water, &c. to a number of dogs, who had not received food for a length of time; these means, though they diminished for a moment the torments of the animals, yet they soon returned with an increase. If instead of these relaxing substances, tonics, spirits, aromatics, or cold water be given, the effect is different; the hunger is appeased, and the power of abstinence prolonged.

Exp. 4. A solution of super-oxygenated muriat of mercury, given in moderate quantity, was found to diminish hunger; and dogs, to whom this substance had been often administered, were observed to lose their appetite. The author

thor concludes from these experiments, that opium, spirits, aromatics, mercurials, &c. not only prevent hunger, but also appease it. The activity of the absorbent system is likewise diminished by the same substances; the same causes, he observes, act in the same way, and produce the same effects on the lymphatic system and on hunger, there must therefore be an intimate connection between the two, and which seems to be further proved by the following experiment.

Exp. 5. Four dogs, of the same size and age, were taken, and deprived for many days of solid food. Three were killed at separate periods, the fourth was permitted to die of hunger. On opening the first, the stomach was found contracted, the viscera displaced, and a quantity of drink, which had been given a short time before his death, was entirely absorbed. The appearances in the second were similar, except that the proper liquors of the stomach, the gastric juice, &c. were not found in the usual quantity, being in a great measure absorbed. In the third, all the gastric and pancreatic juices, all the mucus of the intestines, and even the serous fluid of the peritoneum were absorbed, all the viscera of the abdomen was shrunk up. In the fourth, the appearances seemed to indicate that the absorbents had begun to act on the solids themselves; the inner surface of the intestines seemed to be attacked in many points, the absorbent vessels were seen exposed, and their power of absorption continued a long time after the death of the animal.

These facts, the author adds, unite with the observations of practitioners in shewing the concurring influence of the nervous and lymphatic systems on the sensation of hunger; they also prove the asthenic nature of this affection, and serve to elucidate the causes of hunger. M. Dumas observes, 1st. That opium diminishes appetite but increases thirst. 2d. That spirits rather irritate than appease thirst. 3d. Fever from artificial excitement, as well as fever from local inflammation, were always followed by thirst. 4th. Having appeased the hunger of a dog without permitting him to drink, and after suffering from thirst a long time, which at length became excessive, a saturated solution of nitrate of potash in water was given to him; his thirst became immediately quieted. The same experiment was repeated on two other dogs; to one, a quantity of pure water was given, of which he drank a great quantity, and a considerable time was necessary before his desire ceased; a pint of the solution of nitre in water was sufficient

ent to content the other. Nitrous salts, the author observes, debilitate the vascular system, and diminish its action, and for which reason they are useful in fevers, where the febrile state in general is confined to this system. I found, says M. Dumas, that bleeding often, and in small quantity, alleviated them; and he thinks, as well from observation as from experience, that thirst as well as hunger, is an affection of the nervous system, but owing to a very different cause; and that these two sensations have, with respect to the animal body, a very different object and end. I have endeavoured however, he says, to determine by one other experiment more precisely my ideas on the subject; and in consequence of which, I do not hesitate to conclude that thirst is a nervous sensation arising from the influence of the vascular system, and partaking of the sthenic or inflammatory character.

A number of dogs were deprived of drink; such food only was given as was capable of irritating them; when their sufferings from thirst were at the highest pitch, a large quantity of blood was taken from one of them; thirst was for the moment quieted, but what appeared more important, was, that the blood threw up a thick inflammatory crust. Another dog was killed in the midst of his torments, and the marks of inflammation were evident on most of the viscera; some parts seemed to be threatened by gangrene, and the heart and vessels were full of a thick coagulated blood, as is observed in the neighbourhood of inflamed parts. The author concludes by telling us, that he had undertaken a set of experiments with a view to determine what were the best means of exciting hunger and thirst; but he hesitates to assert that it will be found that hunger is excited by every direct stimulus of the nervous and lymphatic systems, while thirst will be produced by stimulating the vascular. A variety of considerations and objections to our author's conclusions and reasoning will arise in the mind of the intelligent physiologist on perusing this Memoir, and which it is unnecessary to suggest. The experiments, however, are not without interest.

We only think it useful to observe, that M. Dumas is author or rather compiler of a very elaborate System of Physiology, and that, as a professor and practitioner, he enjoys the first character in the Medical School of Montpelier.

On the Causes of Irritability and Excitability; by M. De La Melhere. *Communicated by our Correspondent at Paris.*

In the present state of human acquirements, this question is one of the most interesting in Physiology, but it is one of extremely difficult solution; with a view to lessen these difficulties, the author offers some reflections. The errors which we refute as well as those we commit, he observes, lead often to the truth. He begins by laying down certain facts. Irritable parts, he observes, taken out of the body, preserve for a considerable time their motion. The heart of a frog or of a turtle, will beat for an hour after separation from the animal; but even when these motions cease, they may be renewed for some instants by various means. 1st. By heat, the effect of which in reproducing the motions in the parts of animals, induced Goodwin to conclude that caloric was the principle of excitability. 2d. By light, which has the same effect as caloric; it is well known that animals kept long in the dark lose their energy and excitability. 3d. By oxygen, as well as every body which contains it. Humboldt has shewn that the heart of a frog, which had discontinued to beat, was again excited to action by plunging it in superoxygenated muriatic acid. If it be afterwards dipped in a sulphuret of potash its motions cease. Girtanner even pretends that oxygen is the principle of irritability. 4th. By Galvanism. 5th. By electricity. In order to discover, says the author, the causes of these phenomena, let us enquire into the nature of the substances which can act on the animal fibre; such as, 1. Heated bodies and caustics. 2. Moisture and dryness. 3. Galvanism and electricity. 4. The particular structure of the fibre, which seems to contribute.*

Of Heat and Causticity. Animal fibres are very sensible to the impressions of heat; a piece of skin or leather, brought near the fire, contracts and moves with some force.† Caustics act on the animal fibres and produce the same

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* The author does not include either the elasticity or tone of the animal fibre.

† The author does not take into consideration the same phenomena in vegetables, and between which, as well as their cause, he conceives a very close analogy to exist.

same effects; acids and caustic alkalis crisp and contract the skin; caustics, he says, act by the heat they contain.‡

Of Moisture and Dryness. Animal matter, says the author, such as the hair, whale-bone, cat-gut, &c. are very sensible to humidity and dryness; this also exists in vegetables. Glutinous, albuminous, and gummy substances are also affected. The inhabitants of damp climates have the fibre soft, and but little tense; the contrary is the case in dry climates. Moisture and dryness should therefore be considered to act on the excitability of animals.

Of the particular structure of the fibre as the cause of excitability. It has been supposed that the nerves were made of vesicles; that these circulated a fluid; that when this fluid was abundant, it swelled these vesicles, and shortened, &c. such as is observed in physics; but anatomy has proved nothing of this kind in the structure of nerves. Reil, who paid much attention to this subject, believes the nerves to be made up of a membrane which forms a number of anfractuosities, in which is deposited the medullary substance.

Of Galvanism and Electricity. This is a subject, observes the author, likely to throw much light on the properties of muscles. Galvani observed with astonishment, that the muscles of frogs were thrown into strong contractions when they were touched by metallic substances which also were in contact with their nerves. This experiment has been varied in a thousand shapes. Volta constructed a pile made up of disks of different metals with layers of cloth interposed. He found, 1. That these metals were electrised by simple contact. 2. That this electricity was positive in the one, and negative in the other. 3. That this

‡ We cannot agree with any part of M. De La Melherie's reasoning on the action of heat or caustic on animal matter; the contortions and motions produced on the application of heat, &c. to the skin and leather are owing either to the sudden evaporation of moisture which they contain, or else to a motion arising from decomposition. Heat, after a certain degree, acts on animal matter as it does on common matter, by separating its component particles; and caustics we believe to act by a chemical decomposition similar to what takes place in a variety of other instances, where the principle of irritability is out of the question. The author, in considering heat and caustics as one cause of excitability, has surely mistaken his ground, unless he attaches to the term *excitability*, a meaning different from its general acceptation. That heat acts on excitability, we know, can and does take place; but that it causes it, is a language neither correct nor admissible.

this power was increased by certain substances, as, for instance, by water impregnated with salt. 4. That water was decomposed, and oxygen and hydrogen were disengaged. 5. That the electric spark might be obtained by its means. 6. That metals were oxydated. 7. That this pile produced the same effects on animals as were observed by Galvani.

Humboldt afterwards shewed, that there may be obtained from the frog, Galvanic contractions without the intervention of any metal; and from which he concluded, that nerves had a galvanism different from muscles; that in the body of animals there was a continual passing of galvanic fluid from nerves to muscles, and vice versa. Aldini made this experiment on a larger scale; he separated the head from the trunk of an animal, laid bare the cervical nerves of one side and the muscles of the trunk of the other, and established the communication by means of a frog which he held in his hand. Violent contractions were the consequence.

La Grave made an experiment which, while it confirmed the opinion of Humboldt, throws further light on the question. He formed a pile of disks, alternately, of the substance of the brain and muscle, as in those made of zinc and copper; commotions were in like manner produced. This experiment proves that the substance of the brain is in a state of electricity different from the muscle; but as nerves are dispersed through every part of a muscle, a kind of natural galvanic pile is formed. Vasali had already observed, that the different fluids of the human body were in different states of electricity, and which varied in health and disease. Geoffroy, speaking of the electric organs of the torpedo, says, that its organs are formed of a great number of aponeurotic tubes ranged parallel to each other round the bronchiæ, and fixed at their base by common ligaments of an hexagonal or pentagonal form. These prisms are filled by a soft transparent substance, which receives a great quantity of nerves; this substance, as well as the nerves, is a conductor of electricity, while the aponeurotic tubes are non-conductors. In the gymnotus this apparatus is towards the tail. In the silurus the electric organ forms under the skin a sac which envellopes the entire fish; these apparatus are pierced by a number of nerves, which come from different parts of the body. It appears warrantable to conclude from this, that in all animals the brain furnishes the nerves, and these again the muscles, with a soft pulp, analogous to what is observed

observed in fish. This substance is susceptible of Galvanic electricity, as is proved by the experiments of Lagrave. Humboldt thinks, that the brain separates the Galvanic fluid. The identity of the electric and Galvanic fluids seem to be sufficiently proved; we must therefore conclude that the brain furnishes the nerves with a nervous pulp containing a great quantity of Galvanic or electric fluid, and that this viscus, so voluminous, filters a particular liquor, which is the nervous, and which also contains a great quantity of Galvanic fluid. When we exercise much, this cerebral pulp loses its Galvanism. A frog, frequently excited, loses its Galvanism, but renews it on resting some time. The reason is, that the nerves and muscles have time to acquire a new quantity of electricity. The means by which these losses are restored, are: 1. Rest; a too long state of rest, observes the author, fatigues, because the electric matter is accumulated in too great quantity. 2. By sleep; this, so much more powerful as the state of rest, is more complete. 3. By moderate heat, which increases the activity of the Galvanic fluid; we know that by heating the cylinder of an electric machine, the effects become more active; in the same way it is that electricity gives energy to the nerves and muscles. 4. Light produces the same effects as heat. 5. By friction, which also promotes Galvanic circulation. The author asks, how is it that Galvanism and electricity produce muscular contraction and excitability? Some physiologists, he remarks, have looked for an explanation of contraction and excitability, by a different combination of animal principles, i. e. hydrogen, oxygen, carbon, azote, phosphorus, &c. Gallini started this opinion, in which he was followed by Gauthier, Vait, Girtanner, &c. Humboldt, who also adopted it, instituted many experiments, with a view to discover the combination which took place during the contraction of fibres. He thinks he can demonstrate that the irritability of animal matter does not depend on the quantity of oxygen which the body contains, but that the azote and hydrogen play at least as important a part, and that the degrees of vitality depend only on the reciprocal balance of chemical affinities. Of all the elements of which animal and vegetable matter is made up, there are certain principles which seem necessary to excite irritability. 1. Oxygen, which enters into different combinations with the acidifiable bases. 2. The acidifiable bases of which the fibre is composed are carbon, azote, hydrogen, phosphorus. The Galvanic fluid favours their combinations, as the electric does that of oxygen and

azote

azote to form nitre. Let us suppose a fibre composed of a certain number of particles, such as the acidifiable bases, carbon, azote. The arterial blood carries oxygen; the Galvanic fluid, disengaged in passing from the nerve to the muscle, favours the combination of oxygen with the acidifiable bases, a combination takes place and the fibre is shortened, and for this reason it is that no motion takes place where the nerve or artery is tied.*

[To be continued.]

A Case *of* Suppuration *in the* Omentum, *succeeded by a* Pneumonic Inflammation; *by* W. Robertson, *one of the Surgeons to the Kelso Dispensary.*

MR. THOMAS D. aged 47, of an athletic make and full habit of body, by business a farmer; on the 18th of August, 1802, while in the field attending his labourers, was seized with a violent pain above the right ilea, extending up that side to the epigastic region, which continued so severe upwards of an hour, that he had great difficulty in getting home. After he had been some time in the house, the violence of the pain abated.

On the 6th of September he called on me, and stated the above particulars. The origin of his complaint he imputed to cold, caught in consequence of his having changed his flannel drawers, which he had been in the habit of wearing, for cotton ones on that day. He mentioned to me, that though following his ordinary employment, he found himself unwell; and, from that date, he complained of a stiffness attended with some degree of pain in the abdomen, concerning which he wished to take my advice.

At that time I could perceive nothing materially wrong, either in the state of the pulse, or in the part complained of. As he was of a plethoric habit of body, I suggested to him the propriety of his losing a little blood and taking some cooling cathartic medicine, to which he readily agreed. I took about twelve ounces of blood from the arm, upon which

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* M. Humboldt should have explained the cause which produces the sudden separation of the oxygen, and which we suppose he intends should account for the phenomenon of relaxation.

which there was no size, and administered two doses of physic, composed of the pulv. jalap. compos. ℈ij. calomel, pt. gr. v. M. each, to be taken at proper intervals; by which, if his complaint was not relieved, to let me know.

I heard nothing of him till the 17th of September, when he called, and told me that he found the stiffness in the abdomen increasing, accompanied with a swelling that gave him great pain whenever he moved himself. Upon a careful examination of the part complained of, I discovered a hard tumour, in size nearly equal to a goose egg, deeply seated a little above the umbilicus in the lower part of the epigastic region, inclining a little to the right side, which gave pain when pressed. I mentioned to him, that a gentle mercurial course, with a strict adherence to a cooling regimen, was the only means hitherto found useful in discussing these indurated tumours. But as I could not pretend to say what might be the termination of such a swelling, for his own satisfaction, I wished him to take the advice of some other medical person, to which he assented. That gentleman, in addition to what I had prescribed, was of opinion that hot baths of sea water might have a tendency to expedite the discussion. He was also ordered to rub about a scruple of the ung. merc. fort. into the part affected twice a day, to use the baths every day, or every other day, as he found it agree with him, and to take a cup full of salt water every morning to keep his bowels regular. During the use of these prescriptions, he passed an uncommon quantity of urine of a very turbid nature, highly loaded with a lateritious substance. The mercury, in seven days, affected his mouth so much as to bring on such a degree of salivation as obliged him to discontinue it. He went ten times into the bath; but finding himself much weaker, and at times subject to fainting, his complaint still increasing, he returned home, after being absent a fortnight.

I visited him the day following, and found the tumour not only increasing but also occasioning a great deal of pain. He was likewise seized with a nausea, which did not allow any kind of food to remain on the stomach. He was ordered to take the saline effervescent mixture, and a number of leeches were applied over the surface of the tumour, alternated with poultices composed of hemlock, oatmeal, vinegar, and camphorated oil. As no aperient medicine would sit upon his stomach, his bowels were kept open by emollient injections. He was also ordered to live upon a light nourishing diet. Notwithstanding the use of these discussive measures, the tumour still continued to increase

crease in size and hardness. His case now appeared very alarming. Mr. Russell, Surgeon, of Edinburgh, was desired to visit him. At that time the tumour occupied most of the epigastic region, inclining considerably to the right hypochondriac. The tumour, both in situation and point of feeling, had assumed the appearance of a diseased schirrous liver, although it had none of the other concomitant symptoms of that complaint. After a very minute examination, Mr. Russell could not say whether it was of a schirrous nature, or might terminate in a suppuration. The patient was directed to take daily two drachms of Rochel salts dissolved in a cup full of water, and an anodyne at bed time, both of which his stomach rejected. As the tumour was still increasing in size, the hemlock poultices were exchanged for emollient ones, which were frequently renewed and alternated with warm fomentations. At last, an obscure fluctuation was observed, and it became a little prominent about half in inch above the umbilicus, inclining rather to the left side, where an opening was made of more than an inch in length on the 26th of October, by the advice and in presence of Mr. Benjamin Bell, Surgeon in Edinburgh, and Dr. Douglas, Physician, Kelso. From the opening, about a pint and a half of a very fœtid matter was discharged. The state of the parts was examined by introducing the finger into the orifice, and, as far as it could reach, the omentum appeared diseased and indurated, with sinuses running in different directions. The wound was dressed and an emollient poultice applied over the whole. During the course of the disease, the pulse never seemed to deviate from its natural state, in proportion to the violence of the disorder. The patient being very much emaciated, was desired to live on a full diet, consisting chiefly of rich soups, and to take a certain quantity of wine daily. Half a drachm of the pulv. cort. peruv. among two ounces of the saline effervescent mixture, with four drops of L. L. to cause it to sit upon his stomach, every two hours was ordered. A considerable quantity of matter was discharged every time the wound was dressed, but a very great degree of hardness still remained.

In the course of a fortnight his recovery was very rapid. From being unable to move himself, in that time he acquired so much strength as to walk across the room unassisted. The discharge soon began to diminish, although every mean was used to keep the wound open, both by tents and the application of warm poultices. The part affected

fected then began to enlarge, accompanied with pains similar to the former, and assumed the appearance of a fresh suppuration.

On the 22d of November, he was attacked with a violent pain in the left side, about the middle of the false ribs, which struck across his breast, and sometimes to his back, attended with cough, hæmoptoe, and great difficulty of breathing. His pulse being full, he was immediately blooded. Sixteen ounces were taken from his arm, which was exceedingly sizy. He had a cooling cathartic composed of Rochel salts and manna. A large blister was applied to the affected part. The pain shifted higher in his breast. The blooding was frequently repeated. In six days he lost four pounds four ounces, all sizy. He had four large blisters applied to the different parts of his chest before the pain and difficulty of breathing were relieved. He was ordered to take daily a drachm of nitre with two of cream of tartar dissolved among a pint and a half of thin gruel; his bowels to be kept open by taking a cup full of an infusion of senna, manna, and tamarinds, every night at bed time. He was allowed for diet nothing but panada, gruels, tea, and vegetables. By the evacuations, he was so much reduced that he could not be moved for eight days, without being threatened with fits of syncope.

After the pains abated, he still continued the use of the nitre and cream of tartar for the space of six weeks, and along with them a pill, consisting of half a grain of calomel every night at bed time. Under this mode of treatment he began to recover gradually, though slowly. He was much distressed with a teazing cough, for which he was ordered the use of ass-milk. By continuing it for a length of time, the cough left him. During this last illness, the former complaint of the abdomen was but little attended to, as his situation in other respects appeared so alarming, that his life was, in a great measure, despaired of. The great degree of hardness that was felt before the attack of the pulmonic affection, began gradually to diminish. The wound was kept open as long as possible; it, however, at last closed; at present there is scarcely any of the hardness remaining.

He now follows his usual employment, appears healthy, and has acquired his former fulness of habit. He has not, however, ventured upon any other diet than broths, milk, and vegetables. Nothing of his complaints now remains, except, at times, a difficulty of breathing. Whether this is occasioned by dyspepsia, or by an enlargement of some of the abdominal viscera, time alone can determine.

A CASE

A CASE *of* HERNIA CONGENITA, *by* Mr. W. ROBERTSON, *One of the Surgeons to the Kelso Dispensary.*

JOHN TURNBULL, æt. 17, of a delicate habit of body, a taylor by trade, had been occasionally subject to a scrotal hernia from his infancy to the age of twelve years, when using any uncommon exertion; but by the application of a bandage properly adapted to the part, it entirely disappeared for nearly the space of five years. On the 18th of September, 1802, being the harvest time, he ate a great quantity of green peas, which disagreed with his stomach, brought on a violent reaching and vomiting; in consequence of which exertion, his complaint returned in a very violent form, attended with much pain in the part. He continued in that state till the 20th of the same month, when the assistance of one of the medical faculty was requested, who blooded him freely, and used other means for its reduction, without effect. On the 22d, I was desired to visit him, and found him in great distress, complaining of great pain in the part, a constant reaching and vomiting of every thing he received into his stomach, with a total obstruction in his bowels; his pulse was full and strong. I blooded him almost ad deliquium animi, immediately after raised his feet over a person's shoulder that was standing, and caused his body to be a good deal agitated in that state, and afterwards attempted the reduction of the hernia, but without success. He was then ordered to lay constantly with his feet and breech raised higher than his head, and to keep linen rags, doubled three or four times, constantly wet, with a cold saturnine lotion at the part; a position and application which I have seen in several instances attended with happy effects. He was likewise ordered to have an injection of warm water, with soap dissolved in it; and after its operation was over, to have injections of tobacco smoke alternated with one of warm water and laudanum frequently repeated, at the same time to take a smart dose of calomel and jalap, which his stomach rejected; the dose was administered a second time with no better success. I visited him on the 23d, found all applications ordered had failed: He was then put into the warm bath for a quarter of an hour. After coming out of it, the reduction was again attempted without being able to make any alteration in the part, which was now become exceedingly painful. When handled, there was likewise a great degree of pain and tension over the whole abdo-

men. His situation now became very alarming. On this I held a consultation with Dr. Wilson, of this place, and Messrs. Bruce and Jack, surgeons. Having taken his case into consideration, and found that all the means that are generally applied with advantage in similar complaints, had been used in vain, we were unanimously of opinion, that an operation was the only chance which remained to rescue him from death, which seemed to be fast approaching.

The danger of his situation being explained to himself and his friends, an operation was proposed as the only resource left, which he agreed to.

He was laid in a proper position, having previously prepared what was necessary for the occasion.

I began the incision about half an inch above the top of the tumour with a scalpel, and carried it nearly to the bottom of the scrotum, the extent which the rupture occupied. The cellular substance and the vaginal coat were laid open, by raising upon the directory the fibres by parcels, and dividing them with a pair of sharp scissars, which I found a preferable instrument to the probe pointed bistoury commonly used, both for safety and expedition. Having cautiously scratched a hole in the hernial sac, there issued out about six ounces of a sanious coloured fluid; the opening being enlarged, the testicle was exposed to view. In order to prevent it from falling out of the scrotum, and to exclude the air, I was under the necessity of stitching the under part of the incision, which secured the testicle compleatly till the rest of the operation was finished. The sac was then laid open its whole length. The contents consisted of a large portion of the omentum of a livid black colour. The portion of gut was about the size of a walnut, and of the colour of a tamirand stone; though of a very bad appearance, it was thought advisable to reduce them, with an idea that they might recover their colour after being returned into their natural situation.

The protruded parts had acquired such a size by the inflamed state they were in, that it was found impracticable to effect the reduction without enlarging the opening at the ring, which was done with the scissars, directed by the fore finger. After the reduction was accomplished, and the lips of the wound drawn close together by adhesive straps, and other proper dressings applied and secured by the T bandage, he was carried to bed and laid in a proper posture. He was ordered a little wine negus, and an emollient injection, which procured a plentiful evacuation from

his

his bowels. Upon visiting him two hours afterwards, his pulse was become quite hard and full. He was then blooded to the extent of twelve ounces. The blood was sizy. He was ordered a cooling cathartic, composed of salts, senna, and tamarinds, which operated freely, and gave him great relief. After this, matters seemed to go on pretty well. The wound was dressed on the 26th, looked well, and almost healed by the first intention.

On the 27th, he was seized with violent shooting pains, with an increase of the tension over the whole abdomen, with a constant vomiting of every thing he took into his stomach, and with a total obstruction of his bowels, so that no injection would pass. He became quite restless, and his pulse more full and frequent. He was blooded again in the arm; but lest too much blood might be abstracted from the general mass, a great number of leeches was applied over the whole of the abdomen, which was also to be frequently fomented with emollient decoctions. The pain still continued. A large blister was applied, which rose well, but the abdomen still continued to increase in size. The total obstruction of his bowels and vomiting continued the same. His countenance became ghastly, his pulse hectic and feeble; nothing but death was daily expected. Mr. Jack, who lived in the neighbourhood, and visited him daily, when dressing the wound, observed a large tumour pointing at the part where the incision was made for the operation; on this, he introduced a trocar and canula and drew off nearly four pounds of matter. The swelling of the abdomen diminished considerably. He had on the same day, got nine grains of calomel made into two pills, with two grains of the extract of opium, which operated powerfully after the evacuation of the matter. For a long time afterwards, he was troubled with a colloquative diarrhœa. The stools being of a very dark colour, and having a fœtid smell, for which he had a few gentle doses of rhubarb with an opiate at bed time. The wound continued to discharge a good deal of matter daily. In the course of the discharge there appeared at the wound a decayed substance, which was laid hold of and pulled out. It proved to be a portion of the omentum, measuring about eight inches in length and two in breadth, of an irregular shape. In some subsequent dressings, two smaller portions came out. He was ordered a nourishing diet, consisting of rich broths and a portion of wine daily. After the diarrhœa left him, he was put upon a course of the decoction of the bark acidulated with the sp. vitriol. dilut.

 The

The hectic fever began to abate, the wound healed up, and he recovered his strength daily, and is now quite healthy and following his employment.

Is it not reasonable to suppose, that in the above case, from the great distension of the abdomen, that the omentum was in a high state of inflammation before the operation was performed, and that by the vigorous prosecution of the antiphlogistic plan, the viscera concerned in the disease were brought into a state of suppuration, and prevented from running into gangrene, and that by these means the life of the patient was saved?

Would not the same termination have taken place, allowing that the diseased portion of the omentum which was included in the sac, had been cut off?

The whole of the matter that was evacuated at different times, was calculated at five pounds. Is it not likely that this great quantity of matter pressing by its weight upon the bowels, was the cause of the vomiting and of the total obstruction of the bowels? It may appear a little surprizing why I performed most of the operation with the scissars, an instrument never mentioned by writers on surgery as a suitable one for that purpose; but whoever tries will find them a very convenient one, as they cut the parcels of fibres raised upon the directory much more readily than the bistoury commonly in use, and they are certainly safer and more expeditious in the hands of those who have not had much practice in this operation.

Observations *on the* Fevers *of* hot Climates; *communicated by* Mr. P. O'Berne, *late Surgeon of his Majesty's Ship Cerberus.*

THE more severe in symptoms, and dangerous in effect any disease is, the more necessary the investigation of and researches after methods of cure must be fully impressive on every mind; it is scarcely necessary to add, that perhaps none comes more strongly under this description than that generally termed Yellow Fever, none, therefore more interesting claims your attention.

In the commencement, generally nausea, pain in the head, loins, and hams, succeed; dry surface, increased pulse, but not to be depended on, varying from 80 to 140, chills, anxiety, sighing, prostration of strength; vomiting soon

soon takes place, and not unfrequently is the first indication of the disease. The vessels of the tunica conjunctiva become turgid, and a yellow tinge of that membrane takes place, frequently extending over the body. Notwithstanding this circumstance gives rise to the name usually given this complaint, it is by no means a constant attendant, and in many totally wanting. Watchfulness and desire of sleep, without being able to effect it; whilst in others, constant dozing, pain and sensation of heat in the stomach, great thirst; vomited matter gradually changes from yellow to dark green, and at length perfect black. Clammy skin; sometimes petechiæ, but unfrequent; stupor, or violent delirium succeed; paroxysms of vomiting become more rapid, and many expire in one of those paroxysms too shocking to describe, whilst others placidly resign exhausted nature.

No disease perhaps exhibits a greater variety of symptoms, and often less to be depended on than this; sometimes it goes on with every favourable appearance, suddenly changes to the worst, and patients, apparently almost in a state of convalescence, expire in an hour or two. This is a melancholy fact.

The symptoms that we may call favorable are, settled state of the stomach, lessened head-ach, eyes lively, formation of pustules over the surface, or that eruption known in tropical climes by the name Prickly Heat, I have ever remarked as almost a certain indication of recovery; bilious flux, copious and high coloured urine, free perspiration, and sound sleep.

The dangerous, and I am sorry to add, most common symptoms, are severe head-ach, frequent vomiting, heat increasing to a burning sensation, extending down the trachea and alimentary canal; matter vomited and fæces becoming dark, frequent sighing, dull or glassy eye, pale and little urine, dark furr on the tongue, muscular and nervous debility, intermittent pulse, clammy feet, cold sweats, stupor or violent delirium, singultus, coma.

That dark matter vomited, termed Black Vomit, it may be necessary to remark, although laid down by most authors as a certain fatal sign, is by no means so, as I have seen many recover after it; it is also said, "that a diarrhœa almost precludes any hopes of recovery." If by diarrhœa is understood a simple (or bilious) flux, I have ever observed it a decided fortunate event; certainly a flux of putrid dark fæces is extremely bad, and yet even this I have many times seen prove salutary.

On dissection, I have universally found the coats of the œsophagus and alimentary canal corroded; rectum frequently separated from the surrounding muscular substance, and stomach and intestines loaded with black fetid matter. Inflammatory appearance of the membranes of the brain I never saw in the true Yellow Fever, the stomach being evidently the chief seat of the disease.

The most material comes next to our view, and it is painful to say often the most dispiriting; for surely nothing can be more so to a medical man, than to find his utmost exertions in vain, and unremitting attention unsuccessful; it is a melancholy reflection, that the utmost assiduity cannot counterbalance, nor in many instances even mitigate the effects of these baneful climes; however, let even this, instead of damping, stimulate us in the most beneficent of human pursuits, that of endeavouring to alleviate the sufferings of our fellow creatures.

Our first and principal attention should be directed to clearing the first passages, and to keep them free during the disease, being of the greatest importance.

Emetics are by many laid entirely aside on the principle of increasing the already irritable state of the stomach. That a great deal of caution and discrimination in their use is extremely necessary, must be allowed; but I am decididly of opinion much benefit is to be obtained by them. Where nausea or slight vomiting occurs, ipecacuanha is the best; but if the vomiting be more severe, an infusion of chamomile will answer every intention.

Cathartics; calomel combined with pulvis jalapii is perhaps one of the best; the irritating quality of the neutral salts seldom make them advisable.

Blood-letting has been advised by some of the most respectable authorities, I shall therefore only observe, I never saw it used with advantage; on the contrary, always thought it of disservice.

Our next intentions must be directed toward lessening the irritable state of the stomach, supporting the strength, and resisting that tendency to putrescency that exists in this disorder.

Notwithstanding the great variety of opinions that have been, and still are on this subject, calomel will still perhaps be found the most successful medicine hitherto employed, and in general I have but little doubt its want of success in many instances may be attributed to the manner of giving it, or want of attention to the state of the bowels. Calomel, if not given in large quantities quickly repeated, and

had better not be given at all; I have used from five to eight grains every two hours, (and sometimes every hour) combined with three grains of the pulvis antimonialis, until a diaphoresis was induced, when the latter was omitted, and the calomel continued until the effect was evident, as metallic taste, fetid breath, or sore mouth. When a gentle salivation is raised, desist in frequency, yet continue so as to keep up the effect of the mercury; the criterion of its success may be determined by its action or non-action. When a speedy and copious salivation comes on, the most happy effects may be looked for; while the contrary prove the reverse. And here again let me observe, that the most minute attention must be paid to keep the bowels free, for which purpose enemas are by far the best.

The kali preparatum, given in a state of effervescence with lemon or lime juice, I have used with great benefit in allaying the heat and lessening the irritable state of the stomach; a solution of magnesia, arabic gum, and mint water, I have found eminently serviceable for the latter purpose.

Blisters, although uncertain, are of great utility both in preventing delirium and lessening vomiting, applied to the region of the stomach.

General warm bath is of the utmost service, or where that cannot be conveniently had, washing all over with warm water.

Of all remedies in use for this disease excepting calomel, perhaps none are of more real service than enemas, and the more simple the better, such as warm water, oil, and vinegar; but on the increased vascular action and heat subsiding, enemas composed of orchis, sago, or portable broth; this last I have found of such uncommon service as makes me wish most strongly to impress the use of it; in many cases where animation seemed nearly exhausted, recovery was the unexpected and welcome effect of this salutary practice.

Opium I have found of little if any service in any stage; this however must be left to circumstances, the acuteness of pain in some instances may require its use, and I never perceived any bad effects caused by it.

Camphor where severe head-ach and depression of spirits occur, I think of much service; and in the latter, vitriolic ether.

Cinchona appears to me evidently of disservice until the patient is in a convalescent state.

Quassia in a cold infusion is a grateful and most useful

medicine during convalescence, and here the cold bath is highly serviceable.

The diet from the first should be nourishing and light. Gruel made from the orchis with burnt bread and Madeira, is in general an acceptable beverage; wine should be used with great caution; also all kinds of acids, which when used sparingly are grateful and serviceable; but if used too freely are of real detriment; the utmost precaution must be taken to prevent the patient's strength being too much lowered, to which many fall victims after the fever being totally removed; and among the modes of prevention, I know of none equal to the enemas of portable broth, which will be found most beneficial. I shall conclude by observing, that in a disease like this, whose progress is so rapid, we require to be actively alive to every alteration, and our treatment equally quick.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

SO many methods having been proposed for preserving the Vaccine Virus, that practitioners appear undetermined which to adopt; and as your valuable publication holds out the best channel for communicating the result of experience in the different modes, I beg leave to offer my testimony in favour of that described by Mr. Dennett, in a former number of your Journal. A similar one was lately offered to notice in the same work, which appears not to possess any superior advantage, and partakes less of the simplicity of the former.

I have at different times received quills from Mr. Dennett, for myself and others, my medical friends, and have found that the virus thus kept, to answer more decidedly than any other which I have seen noticed. As this is a matter of great importance to practitioners, particularly those who practice at a distance from London, I request for it a place in the Medical and Physical Journal.

I am, &c.

Hambledon, May 12, 1803. W. HAINES.

To the Editors of the Medical and Phyſical Journal,

GENTLEMEN,

FROM the earlieſt period of Vaccine Inoculation, I have paid every attention to it ſo important a diſcovery appeared to merit; and experienced at the firſt commencement (as other practitioners with myſelf muſt have done) the difficulty of preſerving the virus: of courſe, every method propoſed for this purpoſe was attended to by me, and now I have no heſitation in giving preference to the mode pointed out by Mr. Dennett in your Journal, which I have adopted for twenty months paſt. No other plan that I have ſeen or read of, can be put in competition with this, in my opinion, except that lately propoſed by Mr. Ring, to which ſome objections may be made, as being more complicated. Mr. Ring adviſes a tooth-pick or ivory lancet, inſtead of a round pointed quill, as deſcribed by Mr. Dennett, and inſerts it by puncture rather than by ſlight inciſion. But every one muſt be apprized of the difficulty of keeping the point of the tooth-pick long enough in the puncture for the virus to diſſolve, if *quite dry*, when a reſtleſs child is to be inoculated, which appears to me the reaſon the lancet ſo often fails; but from the pliableneſs of the quill in rubbing it over the inciſion, this objection is done away. I muſt beg alſo to obſerve, what appears a material objection to the obſervation of Mr. Ring with regard to his new inſtrument called the Vaccinator, with which he ſays, that if well charged, more than *one* perſon may be inoculated. I believe it would be impoſſible to adopt this with ſatisfaction, as, from the firſt inoculation, ſome blood muſt of neceſſity be left upon the point of the inſtrument, and few *parents*, under ſuch circumſtances, would like to have it employed. But which ever mode gentlemen may prefer, is of little conſequence when compared to the certainty of keeping it active by this means, as I underſtand Mr. Dennett uſed in February laſt a ſingle quill charged in June, 1802, which anſwered perfectly. This muſt prove of great value to the inſtitutions about to be eſtabliſhed, as large quantities may be kept at little trouble and expence.

I have to apologize for troubling you with theſe remarks, but they have ariſen from a conviction of the benefit Medical Gentlemen will derive by attending to the method propoſed.

I am, &c.

No. 11, Vine Street, Piccadilly,
May 12, 1803.

J. GAILLARD.

Experiments *relative to the* Analysis *of* Opium; *by* Mr. Buchholz, *Apothecary at Erfurt.*

[Continued from Vol. ix. p. 403.]

Exp. XXIV. On mixing this spirituous solution with an equal portion of water, a black matter was immediately precipitated, and the solution remained clear; but on adding another part of water, it became turbid; and when the proportion of the water to the spirit of wine was as 8 : 1, a limy and pulverulent matter was separated, while the mixture lost its colour almost entirely.

Exp. XXV. Ninety grains of the residuum of opium, from which all soluble matter had been extracted by water and spirit of wine, were infused twice successively with two ounces of vitriolic ether. The residuum being carefully dried, weighed 67 grains.

Exp. XXVI. Forty-six grains of resinous particles, obtained from a portion of opium, which I had some time before analysed, were infused with two ounces of alcohol, and boiled for a quarter of an hour, by which means the alcohol became strongly tinged. Having repeated the experiment, I separated 5 grains of a light brown pulverulent matter, besides which the solution of the resin yielded one grain more of the same substance, which treated together with 30 parts of vitriolic ether, proved to be insoluble, and likewise when boiled with 50 parts of distilled water, 100 parts of spirit of wine dissolved not quite two parts of this matter, the residuum receiving a lighter colour, and being soluble with still greater difficulty.

Exp. XXVII. This matter was easily soluble in concentrated nitric acid when heated, whereby a similar smell was disengaged, as when animal parts are treated with this acid. Water, however, again separated it. It was likewise easily dissolved in caustic lye; the solution had a dark brown colour, and emitted the smell of animal gluten: it separated itself by the addition of some nitric acid.

Exp. XXVIII. A solution of iron rendered the solution of this matter in alcohol somewhat darker, but did not blacken it. From these experiments it seems to result, that this particular matter consisted of a combination of gluten with resina.

Exp.

Exp. XXIX. The above-mentioned 67 grains (Exp. 25) were treated with 160 gr. of caustic kali, and 4 ounces of distilled water in a boiling heat, during which operation a matter was disengaged, smelling like an animal substance when ready to putrify. The whole, except 10 grains of a lamellous, or fibrous matter, was dissolved. The solution being filtrated, was of a brown colour.

Exp. XXX. Having sufficiently edulcorated the matter which remained on the filtrum, I gradually saturated the kali with muriatic acid, by which means I obtained a brown viscous precipitation, weighing 5 grains when dry. Thrown on living coals, it emitted the smell of horn; and burnt in a crucible, it left a glossy coal, which could be with difficulty calcined, and after which some calcareous earth remained.

Exp. XXXI. I evaporated the solution in which the remaining 52 grains were contained, to dryness, by which means I obtained muriat of kali, and the blackish viscous matter, smelling like burnt animal gluten, and being soluble both in water and spirit of wine; whence it appears that the greatest part consisted of animal vegetable matter or gluten.

Exp. XXXII. One hundred grains of the residuum of the watery extract, (Exp. 21) were incinerated in a clean crucible, from which a reddish mass remained, weighing about 0,035, which boiled in two ounces of water for a quarter of an hour dissolved, 0,01 excepted. I boiled this grain with 3 drops of concentrated nitric acid, and half a drachm of distilled water, by which it was dissolved. On adding to it a portion of a solution of muriat of barytes, it was troubled, and also by the addition of oxalat of kali, &c. from which it appeared to contain gypsum, aluminous earth, and iron.

Exp. XXXIII. The watery solution, containing the 0,025 saline parts was evaporated by a gentle fire, by which 2 grains or 0,02 regular crystals of sulphat of kali were obtained, the rest consisted of sulphat of lime. No free kali could be traced.

Exp. XXXIV. Sixty grains of the residuum from the tinctura thebaica were boiled with 16 ounces of very pure vinegar to 8 ounces, by which 10 grains were dissolved. The residuum of 50 grains was again boiled with 20 ounces of vinegar; but though this was continued for above an hour, nothing had been dissolved. It contained the gluten and the Koutshoock matter. I had undertaken this experiment

ment for the purpose of ascertaining the opinion of some chemists, that the residuum remaining after the spirituous and watery extraction, is soluble in vinegar, which however seems not to coincide with these experiments. In order to examine which menstruum is the most proper for the solution of opium, according to the knowledge of this substance acquired by the foregoing experiments, I made the following trials.

Exp. XXXV. Two hundred and fifty grains of opium, cut into small pieces, were digested with 4 ounces of alcohol, and the same quantity of distilled water, for 24 hours, and at last boiled for two hours, whereby the liquor was deeply tinged. I poured the mixture on a filtrum, adding to it a similar mixture of alcohol and water, as long as it ran through coloured. I mixed the residuum with one ounce of alcohol and the same quantity of water, and boiled it together for half an hour; the residuum weighed 45 grains, after being edulcorated and dried; whence it appears that all resinous particles are contained in this solution, otherwise the residuum would have amounted to 68 or 69 grains, which was its quantity when I had extracted the opium by water only. It is probable, that the saponaceous and gummous particles contained in the spirituous solution promote the solution of the resin in weak spirits of wine, as it appears from the above described experiments, how difficult it was to extract the resinous particles entirely by alcohol.

Exp. XXXVI. Two hundred and fifty grains of the best opium being pulverised, were digested for 12 hours with 8 ounces of Malaga wine, and afterwards gently seethed for two hours, filtrated, and the residuum edulcorated with the same wine and some water. The experiment was repeated with the residuum and three ounces of Malaga, but the liquor seemed not much to have been impregnated with opium. The rest, which was not soluble, amounted to 54 grains. Both the spirituous as well as the vinous solution had, after some days, deposited two grains of gluten.

Results of this Analysis of Opium.

1. Opium contains the following constituents, and in the subjoined proportion.

a According to the experiments 1, 5, 6, 16, &c. in 500 grains, 178 gr. of extract, both soluble in alcohol and water, or saponaceous extract.

b. According to the experiments 1, 5, 6, 16, &c. 152 grains of gum, only soluble in water.

c. Ac-

c. According to the experiments 8, 9, 10, &c. in 500 parts, 45 parts of which are only soluble in alcohol.

d. The eighth part of these 45, seems to be resin, intimately mixed with gluten, according to the experiments 22, 23, 24, 26, &c.

e. Opium contains, according to the experiments 12, 13, 15, 25, in 500 parts, 24 parts of Koutshoock matter.

f. According to the experiments 29, 30, &c. from 50 to 60 grains of vegeto-animal matter, or gluten, in 500 grains, and some ligneous matter.

g. According to the experiments 20, &c. 30, &c. about 2 or 3 per ct. of sulphat and muriat of kali, sulphat of lime, some aluminous earth.

h. According to the experiments 1 and 2, volatile narcotic matter = g.

These constituents, calculated according to 100 parts, will make,

1 Saponaceous matter	35,60
2 Gum — —	30,40
3 Resinous particles	9,—
4 Koutshoock matter	4,80
5 Glutinous matter	11,40
6 Ligneous substance	2,—
7 Loss — —	6,80
	100

2. The saponaceous matter seems to render the solution of the resinous particles of opium much easier even in weak spirit of wine.

3. The best menstruum for opium is a mixture of equal parts of alcohol and water, by which all the soluble particles of opium are extracted and united. Hence it appears, that the prescription of the Edinburgh dispensary for preparing tinctura thebaica is the most proper, and the best calculated for extracting all the active parts of opium.

4. According to experiment 3, it seems probable that the volatile particles which affect the organs of smell, do not contain the principal virtue of opium; but it seems rather to reside in the other, particularly in the resinous particles, the taste of which is very acrid and penetrating.

5. The fear of impairing the virtue of opium by boiling it with different menstrua, is for the most part exaggerated and groundless.

6. Opium contains no essential oil.

7. Astringent

7. Astringent matter or Gallic acid, does not belong to the constituents of opium.

The results of this examination of opium, although they may seem not quite satisfactory, are certainly entitled to the attention of every chemist and physician.

To the Editors of the Medical and Phyfical Journal.

GENTLEMEN,

AGREEABLY to your request in No. 51, which, if properly attended to, may prove to be considerably advantageous in forming just opinions respecting Influenza, I send you the following, for insertion in your very useful Journal.

This disease, which has attracted so much notice as the reigning epidemic, and to which the name of Influenza has been given, appeared in Paisley about the beginning of last April, became very general in a few weeks, and was distinctly marked by the characteristic symptoms so well described by several authors. The weather, both before and since that time, has been particularly cold and variable.

By the middle of May this disease was considerably abated in frequency, and at present there are but few afflicted with it. Upon the whole, the Influenza has been very mild, and so far as I can learn, not above two have died of it in this town.

The greatest number who were affected with it could go about their ordinary business, and most of those that were ill and took to bed, recovered in four or five days. Many indeed were longer confined, but it appeared invariably, to be either the consequence of inattention or former disease.

In a daily statement of the cases of fifty-eight patients, who had Influenza pretty severely, taken simply as they occurred, and at a time that the disease was not prevalent, there are twenty-six males and thirty-two females. The whole of these recovered within eight days of the commencement of the disease, excepting three, a man and two boys, who were from ten to fourteen days ill before the feverish symptoms disappeared; but these three were in a diseased state previous to the attack of Influenza.

Among

Among other families which I had occasion to see, when part was under this disease, there were twenty-seven, in which every individual of the families were less or more affected. In these families, nine children only were at the breast, none of them younger than a month, and they all had the disease soon after, not before, the mother. One family, consisting of six, was under the disease for several weeks, and the mother and two daughters, who were first affected, took it a second time while attending the other three. In another family the mother became ill of Influenza and soon recovered, but before the whole had passed through the disease, she again took it, two weeks after her recovery, and was considerably worse than at first.

As proper attention to acid fumigations is not easily procured, without being more frequently with the family than ordinary practice in a town will allow of, I wish not to draw any conclusion from what experiments of that kind I have made. However, if justified in choosing the least of two evils, one of which is unavoidable, we certainly act with propriety when we admit that Influenza is infectious, till clearer facts convince us that it is not. By doing so we the more readily attend to every mean of prevention, and give a chance, at least, of keeping off disease without any bad effect; whereas, by inculcating a contrary opinion, which is very disputable, we may propagate an error that may lead to serious consequences. Any argument brought forward by the opponents to infection seems feeble, when compared to the many instances which could be given to the contrary. That typhus fever comes on in persons who are not exposed to that infection, so far as it is possible to ascertain, can be proved in many cases, and who, from such a circumstance, would doubt that typhus is contagious. The short view of cases of individuals and families stated above, I rather advanced, than others of a similar nature to which I was less attentive, not having marked them down as they occurred. If they tend not to confirm the opinion that Influenza is infectious, they are facts which, in some measure, increase the difficulty of opposing it. As to blood-letting in this disease, which has been treated with so much invective by some authors, it was both necessary and useful in a few cases. For my own part I had no occasion to use the lancet, but would I say from that, that in no case such a thing was necessary, when I know some practitioners in town, of long experience and considerable abilities, who were

were compelled from the violence of symptoms, to use the lancet, and had the happiness to see its good effects.

People affected with Influenza, like catarrh, seemed more than usually liable to suffer from cold air; and though not exposed to cold in any manner different to what they were accustomed, yet the being without doors occasionally, was frequently the cause of increased disease, and of course inflammatory symptoms; thus, from predisposition, and other circumstances, was blood-letting rendered necessary. Another cause of increasing these symptoms, which deserves particular attention and severe censure, was the noted cure recommended so highly in the public papers, viz. whisky and oatmeal. It is to be regretted that whisky drinking is so much the pleasure of many; and in consequence of this recommended cure, numbers considered themselves as having got a licence to drink plenty of whisky; of course, there was not only pretended affection, but even when it was real, whisky was drank greedily, till severe illness changed their inclinations, and obliged them to apply for remedies more suited to their complaints.

Considering it not necessary to extend this paper by commenting at large on the mode of cure,

I remain, &c.

JOHN RODMAN.

Paisley, June 7, 1805.

ORIGINAL LETTERS OF DR. MEAD.

The Two following Letters of Dr. Mead, *never before published, and written about eighty years ago, may perhaps be worth inserting in the Medical and Physical Journal, if not on account of the importance of the matter they contain, at least as literary curiosities.*

To Dr. DEACON, at Manchester.

SIR,

I Received your's concerning Mr. Clayton's case yesterday, and have writ to him, as you desired, by this post. I have assured him there is no danger. You will see my letter. I am by this to acknowledge the favour of your's of the 15th. As to your patient with the fluor albus, I don't know any thing so effectual as an injection of aq. camphorat. batean. lib. j. mell. Ægyptiac. ℥iij. made use of morning

ing and evening. Aq. benedict. comp. batean. is good, as is Bristol water. Pills made of alum melted ℥iij. sang. dracon. ℥j. taken ℈j. ter die are serviceable.

I am, &c.

Ormond Street,
December 24, 1724.

R. MEAD.

To Dr. DEACON, at Manchester.

DEAR SIR,

I HAVE the favour of your's concerning Mr. Darbyshire's case, which is indeed very bad. I must freely observe to you, that I have always experienced that mercury in no shape whatsoever will agree with cancerous cases, which are always exasperated by it; that is, while the cancerous tumour remains in any part; for when that is cut off, I have known a salivation, if the patient has been put into it as soon as the wound begins to digest, and it has been continued till the part is quite healed, to have done prodigious service, and the humour has never returned again. The mercurius alcalisatus frequently raises a salivation, and I suppose it has done so in the present case the more readily from the acrimony of the humours of the body. It is certain that the actual cautery is rightly applied in a cancer; any common caustic, by reason of the sharp salts in its composition, are not agreeable to the corroding salts in the tumour. What therefore can now be done is, I think, if possible, to stop the salivation; as the mercury took this turn from the acrimony of the juices of the body, so I imagine that it goes on so obstinately from the same cause. I would continue to keep the body lax, by gentle purges; infus. sen. cum mann. &c. every third or fourth day; the intermediate days, I would give aq. hord. et lact. vacc. aa. ℔ß. (edulcorat) with fl. sulphur. ℈ß. or more, if the stomach will bear it, twice a day. Adstringent gargles must be continued. The diet should be very much upon milky things. If by this means the patient can be brought into that condition as to bear the cautery, it should certainly be applied, and he should then live upon a vegetable and milky diet, and drink freely of a decoction of sars. chine with milk; and take pulv. milleped. ℈ß. twice a day. I shall be glad to hear how you proceed, and am always,

Your's, &c.

Ormond Street,
March 20, 1735-6.

R. MEAD.

A Case *of* Mania *cured; communicated by* Mr. Hickin, *of W. Hampton, Staffordshire.*

Mary Allen, aged about twenty, a few days before the 23d of last February, was attacked with Madness. On the 23d I was requested to see her, and found her as follows: She was raving, and so inconsistently that I could not perceive what was predominant in her mind; her pulse was upwards of 70; menses regular; she would sing, bow, laugh, and cry. Inquiry was made, to endeavour to find the remote cause, but no satisfactory decision could be made. The regimen ordered was bread and water for about the first three weeks, and then, by degrees, a more nourishing diet. The treatment was the antiphlogistic, as,

On February 23, V. sectio ℔j. ℞. Antim. tart. gr. vj. kali ℈j. aquæ puræ, ℥j. M. ft. haust. vesp. sumend. This did not operate.

On the 24th, the following, ℞. Antim. tart. gr. vj. in ch. ppt. vj. j. 4tis horis sumend. which occasioned no sickness so as to operate. ℞. Opii. crud. saponis a gr. j. ft. pil. h. s. sumend.

On the 25th, ℞. Pulv. sal. nitri. ʒij. antim. tart. gr. xij. M. in. ch. vj. j. 4tis horis sumend. ℞. Pil. ut heri h. s. s.

On the 26th, The powders as yesterday. She had on this day a purging, with lowness of spirits.

On the 27th, ℞. Cort. cascarill. ℥ß. coque in aq. ℔ß. pro min. 10, cola, et capiat. coch. larg. ij. 4tis horis. This evening she begun to mend very much, and every night she had an opiate as above, which from the first time it was employed had a good effect.

On March 1, she was attacked with symptoms of Influenza, for which she took the following: ℞. Pulv. ipecac. ℈j. antim. tart. gr. vj. M. ft. pulv.; this operated very well. ℞. Pil. opii h. s. sumend.

March 2, Complains of a violent pain in the head with throbbing. ℞. Emp. cantharid. capit. applicand; this gave her a good deal of trouble.

A few days after she complained of great lowness, for which two compound galbanum pills were given every four hours. Continues recovering; is taken out a walking, and recovering without any thing farther, save an opiate every night for a few weeks: and is on this day, May 14, 1803, as well as ever she was in her life.

HISTORY of a Case of EPILEPSY, *cured by applying a Caustic to the Nerve which accompanies the Vena Saphena; by M. Pontier. Communicated by our Correspondent at Paris.*

THE author states, that a young man, twenty-five years of age, of a plethoric habit, came into the hospital to be treated for an epilepsy, the fits of which returned three times a day regularly at six and nine in the morning and at two in the afternoon. After the unsuccessful trials of opium, bark, camphire, valerian and moxas, applied to the head, the author recollected to have read in the *Recueil Periodique* of the Medical Society, an observation of an epilepsy cured by the extirpation of a small tumor from the thumb of the right hand. Struck by this fact, and after close enquiry into the history of the complaint, he learned that the patient had been bled in the right foot, some months before, on account of the epilepsy, which had attacked him two years back; that some time after he had been bled in the left, and in consequence of which the duration of the fits became much longer. The author suspected the case to be sympathetic, and to have proceeded from the imperfect section of the nerve accompanying the vena saphena. The incision of the vein was made transversly, and to the touch a small hardness was perceivable of the size of a barley-corn, situated on the outer side of the vein; for eight months the patient had not experienced a particular sensation of cold, which ran up the right leg, and which, anterior to this period, had always troubled him. This circumstance was of importance to the author, who, an instant previous to the usual fit at two o'clock, applied a ligature above the right knee; the fit continued but five minutes instead of twenty-five, the usual period. The same consequences followed the application at nine o'clock The following day the fit was suspended by the same means; and when the tourniquet was used, and the bolster made to press on the course of the nerve in question, the fit was found to continue but a minute and a half. The author observed, that on relaxing the tourniquet at the conclusion of the fit, a general trembling came on, which was suspended by tightening anew the instrument. On applying the ligature above the ankles the fits were in like manner suspended. As yet no pressure was made on the extremity; but the author, in order to assure himself that it was in part the cause, placed a ligature on each leg

some time before the period of accession; no fit took place. The patient appearing to have some disposition to sleep, M. Pontier endeavoured to divert him by various means; a disposition to laugh, as if intoxicated, slight tremors of the head, a difficulty in articulating certain words, were appearances which marked the period of the usual attack; but the patient never lost the use of his reason and senses. The same experiments were repeated with the same results the two following days. In the evening, caustic alkali was applied to the cicatrices, with a view to divide completely the nerves; the caustic had produced its effect before the period of the next fit, which did not take place, notwithstanding that no pressure whatever was applied, and from this moment all symptoms disappeared. During the sloughing of the escar, the patient was ordered to take two drachms of valerian and an equal quantity of bark. This case is concluded by the following reflections of one of the editors of the *Recueil Periodique*. Although wounds of nerves be a very frequent cause of epilepsy, yet in the case in question it would not appear to be owing to the wound inflicted in bleeding, since the disease existed some years before. It appears only that the complaint became aggravated after bleeding. We should be desirous to know if the small tumour, marked in the history of the case, existed before the operation; and whether it can be considered a sufficient cause of epilepsy? 2dly, Whether or not the same mode of treatment was not equally indicated before blood-letting? We find, in the annals of the science, a number of cases of epilepsy, where the fits were suspended by the application of ligatures above the place where the aura epileptica was perceived, and where there was no reason for attributing the disease to the imperfect division, or to a wound of a nerve. It has been found too that this application of ligatures persevered in, has sometimes cured the disease. The application of canteries to different parts of nerves has also produced a cure. For these reasons, would it not seem more correct to give greater extent to the mode of cure than the author has done, and not confine it exclusively to cases where the disease may be supposed to arise from a partial division of a nerve?

Historical Statement *of the* Galvanic Discovery, *and of the* Publications *which have appeared on that* Subject.

[Continued from Vol. vii. p. 161.]

Observations on the Influence which produces Contraction in the Muscles of Animals, agreeably to Mr. Galvani's Experiments, by Dr. W. C. Wells; see Philosophical Transactions for the Year 1795, *part ii. p.* 246, *translated in Gren's Journal der Physik, vol. iii. No.* 4.

The author endeavours to answer the following questions: 1. Does the incitement of the influence which in Mr. Galvani's experiments, occasions the muscles of animals to contract, either wholly or in part depend upon any peculiar property of living bodies? 2. What are the conditions necessary for the excitement of this influence? 3. Is it electrical? With respect to the first question, the author is inclined to answer it in the negative. Having employed various moist substances, in which there could be no possibility of the existence of life, to constitute with one or more metals, different from that of the coatings of the muscles and nerve, a connecting medium between those coatings, he found that they produced the same effect as his own body. He had accidently observed, that on covering a muscle and its nerve with two pieces of the same metal, the muscle was immediately thrown into contraction, if he applied the metal which he had used as a connector, and still held in his hand, to the coating of the muscle only, while with the other hand he touched the similar coating of the nerves; a curious circumstance, as it is known that no motion will take place, upon connecting those pieces by means of one or more different metals. A single drop of water was sufficient for the above purpose, though, in general, the greater the quantity of the moisture which was used, the more readily and powerfully were the contractions of the muscle excited. Concerning the second question, he remarks, that, without knowing the previous discovery of Mr. Volta, he found that charcoal is endowed with the property of exciting the Galvanic influence. The fact is, that as far as the contraction of the muscles is a test, whether the influence exists or not, and we have no other, it is never excited, when two metals, or one metal and charcoal are necessary for this purpose, unless the substances touch each other, and also are in contact with some of the fluids. But there is still another requisite for the excite-

 men

ment of the influence, which is a communication, by means of some good conductor of electricity, between the two quantities of fluid, to which the dry exciters are applied, besides that which takes place between the same quantities of fluid, when the dry exciters are brought in contact with each other. Dr. W. likewise discovered that an exciting power may be given to a metal by rubbing it on many substances beside another metal, such as silk, woollen, leather, fish-skin, the palm of the human hand, sealing wax, marble, and wood. He thinks it probable, that the part which has been rubbed, is so far altered in some condition or property as to be affected differently by the fluid exciters from a part which has not been rubbed; in short, that the rubbed part becomes as it were, a different metal. The last question he answers in the affirmative, and thus expresses himself: "The points of difference between any two species of natural bodies, even those which from the similarity of some of their most obvious qualities, have once been thought the same, are found upon accurate examination, greatly to exceed in number those of their agreement. When, therefore, two substances are known to have many properties in common, while their differences are few, and none of these absolutely contradict such a conclusion, we infer with considerable confidence, that they are the same, though we may not be immediately able to explain why their resemblance is not complete.

Extract of a Letter of Mr. J. Fabbroni in Florence. In Crell's Chemischen Annalen, 1795, vol. ii. pp. 502.

The author is persuaded by the experiments which he made, that several phenomena, ascribed to this electricity, originate from a chemical power, which the dry and cold metals mutually exert, in order to decompose moisture or the *lympha animalis.*

Vorlaufige Bekanntmachung der Natur des Metallreizes; i. e. Preliminary Account of the Nature of the Metallic Stimulus, discovered by Prof. Créve of Mayance. In Hartenkeil's Medical and Surgical Gazette, (in German) 1796, vol. i. p. 49.

Beytrage zu meiner Ankundigung, die Natur des Metallreizes Betreffend; i. e. Additions to my previous Account, concerning the Nature of the Metallic Stimulus, by Prof. Créve, vol. i. p. 324.

Mr. Créve is of opinion, that on applying metals to animal parts, a chemical process takes place, by means of which the two metals decompose the water, and at the same

time

time disengage a portion of caloric, which combines itself with the caloric that is made free during the decomposition of the water. The oxygen unites itself afterwards with the metal and the hydrogen with the caloric, from which last combination arises an electrical matter, which being the product of this process, properly forms the proximate cause of the metallic stimulus.

Ueber die gereizte Muskelfaser; i. e. on the irritated Muscular Fibre; from a letter to Prof. Blumenbach, by Mr. Humboldt. In Gren's Neuem Journal der Physik, vol. ii. No. 2, p. 115.

From another letter of the same to the same; ibid. No. 4. p. 471.

Versuche uber den Metallreiz, besonders in Hinsicht auf die Verschiedenartige Empfanglichkeit der Thierischen Organe; i. e. Experiments on the Metallic Stimulus, particularly with respect to the different Sensibility of Animal Organs; from a letter to Prof. Blumenbach, by Mr. Humboldt, Ibid. vol. iii. No. 2.

Versuche Uber die gereizte Muskel und Nerven Faser, nebst Vermuthungen uber den Chemischen Process des Lebens in der Thier und Pflanzen Welt; i. e. Experiments on the irritated Muscular and Nervous Fibre, together with Conjectures on the Chemical Process of Life in the Animal and Vegetable World, by Frederic Alexander von Humboldt, tom. i. and ii. Posen and Berlin, for Decker and Rottman.

In stating the labours which this excellent Naturalist has bestowed on the Galvanic discovery, we need only give an account of the last work, in which his former notices are repeated, corrected, and enlarged. It comprises every thing relative to the Galvanic discovery, which was known to the time of its appearance, containing besides a rich store of new discoveries, interesting views, and observations, by which it is justly entitled to the attention and study of naturalists. The author has every where endeavoured to relate his observations and experiments, unprejudiced by the seducing train of hypothesis, and he modestly delineates the theory which he has formed on the nature of the Galvanic phenomena. We shall now proceed to a short analysis of the work itself.

First Part, Sect. I. The author prefers the expressions of *Galvanic stimulus*, to *Galvanise*; *Galvanismus*, as more proper than the denomination of *metallic stimulus*; and animal electricity, for the purpose of denoting the pheno-

mena which Mr. Galvani has discovered in the nervous fibre, inserted in the muscle. The Galvanic agent only acts on the living nature, and is only perceptible in the matter which is endowed with the sensible fibre. It requires the re-action of a living animal fibre, and comprehends what is generally called vital action. No experiments have hitherto been able to make the action, which the Galvanic experiment most probably exerts on dead nature, combined with the excitable substances perceptible to our senses. The experiments which Mr. Humboldt undertook with this view, proved likewise without success. The success of the Galvanic experiments depends as well on the excitability and sensibility of the animal organs, as on the intensity of the stimulus, on which account it is of great importance for a proper examination of the Galvanic laws, to make the experiments on very sensible animals. With this view the author took frogs for his experiments, which were particularly successful. By bathing the nerves of these animals in alkaline solutions and in supersaturated muriatic acid, he was enabled to increase or diminish, at pleasure, the excitability of the fibre, and to resuscitate the languishing sensibility of animals in an artificial manner. As every stimulus debilitates the organs when too frequently applied, and as common acids applied to the nerves diminish the incitability, it was an easy thing for him to bring every animal substance from the highest degree of sensibility down to the lowest debility, direct or indirect. In order to examine the conditions and laws by which the muscular motions are produced in Mr. Galvani's experiments, Mr. H. distinguishes the state of sensibility, when naturally high or artificially increased, and when it is by any means diminished.

Sect. II. When the living irritable as well as sensible fibre is in a state of a naturally high or artificially increased sensibility, the muscular motion is observed to take place under two conditions; 1. if a fresh animal substance; or, 2. if metal or charcoal forms the conductor of the Galvanic fluid between the muscle and the nerve. In this section the first condition is considered; and the author excited muscular contractions by bending the thigh of a frog towards the ischiadic nerve, with which it was connected, while the crural nerve and muscle were touched at the same time by means of a piece of crural nerve, that had been cut out; by this method the animal's parts formed a connection, and conducted the influence from one part of the nerve to another.

Sect.

Sect. III. The second condition, by which, in the state of increased irritability contractions ensue, always requires the concomitant action of metalline or carbonised substances; but the author here distinguishes again two cases, viz. excitation occasioned by one metal or by homogeneous metalline parts, and excitation from heterogeneous metals. Homogeneous metals, causing muscular contractions, are applied to the animal organs in such a manner as to form a chain, or this chain does not take place. The author made several experiments relative to this different disposition of the exciters; and among others, we shall only point out the first experiment, grounded on the last case, where no chain is formed. Mr. H. having armed the crural nerve of a very lively frog with zinc, was proceeding to connect this coating and the crural muscle by means of another zinc wire; but the two metals had hardly been brought in contact with each other, without the zinc wire having touched the muscle or nerve, when most violent contractions ensued. It has been questioned whether homogeneous metals could excite contractions as muscular or as nervous coatings. In order to decide this question, Mr. Humboldt having poured pure quicksilver into a porcelaine saucer, and prepared the thigh of a frog in such a manner, that in a horizontal position of the thigh the crural nerve and a bunch of the muscle hung down, the leg was tied to a glass tube which was kept horizontally suspended over the saucer; and when the nerve touched the surface of the quicksilver, no contraction was perceived; but the muscle, on being brought in contact with the quicksilver, was convulsively contracted.

Sect. IV. Contractions of the muscles ensue if the nerve as well as the muscle are coated with heterogeneous metals, and either immediatly touch each other or through the medium of a moist conducting body; if homogeneous metals are applied to the muscle and nerve, and connected by a heterogeneous metal; if homogeneous metals coat the muscle and nerve, connected by means of two moist substances and one heterogeneous metal; if in the chain between the nerve and muscle several metals alternate with pieces of muscular flesh, and if there is only one homogeneous metal among the rest, &c. When the living organs are in a state of diminished incitability, they require a more violent stimulus, in order to produce muscular contractions.

The Galvanic phenomena, then, appear under two principal

cipal conditions, that the heterogeneous coatings of the nerves and muscles touch each other immediately, or by means of exciting intermediate substances; and that homogeneous muscular and nervous stimuli are connected by a heterogeneous metal, the surface of which is to be covered with an evaporating fluid. This last property the author discovered by a singular experiment, which he here relates. He likewise mentions some experiments, according to which, animal parts appear to possess a conducting atmosphere. On placing, instead of the fluid, a piece of the muscle on zinc, lying on the gold plate, with which the nerve was armed, he not only perceived the convulsions on touching the muscular flesh, but on removing it to the distance of ¼ line from the gold plate.

Prof. Grimm, of Liegniz, in Silesia, who from the first discovery of the Galvanic agens, thought of employing it with a medical view, has published the results of his experiments in a medical journal, entitled, Archives of Practical Medicine for the Provinces of Silesia and South Prussia, (in German). He observed several disagreeable symptoms to arise from the application of Galvanism too long continued, viz. weariness, diarrhœas, and catarrhous complaints. He employed Galvanism in dimness of sight, and in difficulty of hearing; in the first complaint without avail, while in the latter it frequently proved successful. He relates one case of obstinate ophthalmia which he succeeded in curing by bringing the patient in connexion with the Galvanic chain, for which purpose he placed the zinc wire on the tongue, letting the patient at the same time touch the uppermost copper-plate with a staff of iron, the hand in which he held it being previously moistened. This case proves the great influence of the Galvanic agens on the organs of sight, though the neighbouring parts are only acted upon. Prof. G. recommends the Galvanic apparatus of Mr. Cruikshank, which has the advantage of keeping its efficacy for several weeks without requiring to be cleaned and rubbed, which is always a very tedious operation.

Dr. Zadig, of Breslau, was so fortunate as perfectly to cure a man of sixty years of age, who was affected with amblyopia by the use of Galvanism continued for about six weeks. He began with ten strata of plates, gradually increasing that number to thirty. He placed the copper wire into a glass bowl with salt water, in which the patient was ordered to immerse his hands, while the doctor touch-

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ed the upper eye-lid with the zinc wire, which he repeated twice a day for fifteen or twenty minutes.

In the *Annalen der Physik*; i. e. Annals for Natural Philosophy, published by Prof. Gilbert of Halle, Mr. Emhoff of Celle communicates his experiments relative to the medical application of Galvanism on persons affected with difficulty of hearing, which in a great measure seems to arise from a rheumatic cause, as the complaint increases in bad and rainy weather; but these experiments did not answer his expectation. In one case, the application of Galvanism was continued every day for six weeks, without producing any favourable effect, though a weak degree was first employed, and the Galvanic shocks gradually increased, so as to make them very sensible to the patient.—Another patient thought himself relieved for a short time; but though he was galvanised with a pile of 100 strata, he perceived not the least effect from it. The experiments however, which Mr. E. made on four persons who were deaf and dumb proved more satisfactory. In these cases he made use of a pile, consisting of 100 strata of zinc and copper plates with round pieces of felt which he had dipped in very diluted nitric acid; taking twelve parts of water to one part of the acid, which he found of all wet conductors to be the most advantageous. At the two ends of the pile brass wires were adapted, ending in small hooks, to which the brass conductors were fastened, by means of which the Galvanic shocks are carried to the ear. For the purpose of insulating them, they pass through glass tubes; some of them are pointed, while others are provided with a small knob either of lead or of wood, by which means Mr. E. was enabled to increase or diminish the effect of the pile, according to the different indication, because the pointed conductors are the most efficacious, and those which have a wooden knob show the weakest action. Before the conductors are applied, Mr. E. moistens the concha and external parts of the ear with water of ammonia, and introducing one wire into the ear, he touches the other ear with the opposite conductor twice or three times within a second minute. The patient could be exposed to a greater or less degree of Galvanism, as he increased or diminished the number of the strata. The patients on which Mr. E. used the Galvanism in this manner, were, a boy twelve years old, who had lost his hearing in the small-pox in the fourth year of his age; a girl aged eight, born deaf; and two adults; in all which cases the applica-

tion

tion proved successful. The boy was within two months so far advanced, that he could hear words spoken near him with a low voice; however, when his attention was engaged he seemed not to regard the loudest voice. He was particularly sensible to sounds which he was not accustomed to hear. He learned in a short time to pronounce the vowels, and by degrees the consonants, and some easy words. The effect of Galvanism was still more striking with the girl, as she acquired after five weeks the full power of her organs of hearing; she heard the lowest voice, turning towards the person who speaks, and she begins to speak and babble as children do. In the adults on whom Mr. E. employed the Galvanism, the cure advanced more slowly; however, after an application continued for six weeks, they were able to distinguish the sound of a bell, of drums, of a flute, &c. which induced Mr. E. to continue the practice, the results of which he has promised to communicate to the public.

Dr. Martens, of Leipzig, has likewise made a series of experiments on the medical application of Galvanism, which he has published in a medical journal, entitled Paradoxien, of which he is the editor. In four cases of suppressed gonorrhœa venerea, where the scrotum began considerably to swell, he re-established the running by means of Galvanism, and thus removed the swelling. For this purpose he introduced a silver probe into the urethra, bringing it in connection with the zinc pole of a Galvanic battery, which consisted of 12 strata. To the copper pole he fastened a silver spoon, which he applied to the perinæum, which had been previously moistened with a solution of sal ammoniac. The experiment was repeated only twice within five minutes, and occasioned a painful sensation in the affected part.

In three cases of paralytic diseases, Dr. M. employed the Galvanism with much success.

1. In a paralysis of the upper eye-lid, which he removed in three days, by means of a battery of 12 strata. On the two first experiments no sensible effect could be perceived, but during the third experiment the paralysis suddenly disappeared.

2. In a paralysis of the extensores digitorum, which was removed by the application of Galvanism fifteen times repeated. The battery consisted in this case of 25 strata. He fastened a zinc plate on the metacarpus of the thumb, and a copper plate on the fifth metacarpus, placing under

each

each a piece of cloth wetted with a solution of sal ammon. and he brought them alternately in connection with the battery.

3. In an imperfect paralysis of the thigh, which had lasted for above year. He put a blister near the trochanter, and another below the flexion on the anterior part of the thigh, keeping the sores open by means of Galvanism. The patient found himself greatly relieved, but the cure was not completed, when the author published his account.

In a dimness of sight the Galvanism proved likewise efficacious, but without removing the affection entirely.

The faculty of hearing and speaking in a person born deaf and dumb, who could only distinguish some kinds of sound, was likewise much improved by the use of Galvanism; the results however were uncertain, as the patient was prevented from continuing it for a proper time.

In several cases of difficulty of hearing, Galvanism was also employed with success. Dr. M. relates eight such cases, in all which the patients experienced great relief. For moistening the cloth he thinks a solution of sal ammon. to be the most efficacious, but salt water preserves its efficacy much longer. The best composition for that purpose consists in the following mixture, ℞. Sal commun. unc. j. fell. taur. recent. unc. j. aq. font. unc. iv. tinctur. heliotrop. dr. j.

Dr. Marten's method of applying Galvanism in affections of the auditory organs is the following:

1. If deafness be equally strong in both ears, he conducts the zinc wire into the one, and the copper wire into the other ear, but he changes the application, alternately introducing the zinc wire and copper wire into the ears.

2. If one ear be more affected with deafness, he always conducts the zinc wire into that ear.

3. Should deafness merely reside in one ear, he applies the zinc wire to the affected ear and the copper wire to the sound, moistening the linen in which the zinc wire is wrapped with a solution of sal ammon. whereas the copper wire is moistened only with common water. In this case the patients have scarcely any sensation in the sound ear, while the Galvanic agens is fully perceptible in the affected ear. Or he orders the patient to immerse the hand of the side opposite to the affected ear in a bowl with salt water, into which the wire of the copper pole has been conducted; a method far preferable to the former.

Dr.

Dr. Martens disapproves of the different machines proposed for fastening the conductors in the ear by Drs. Augustin, Grapengiesser, and Bishoff, as being too compound, expensive, and inconvenient. He prefers a machine invented for that purpose by Dr. Titteran of Leipzig, which consists of four different parts, namely a bandage to be tied round the head, a hoop of whalebone, two small wood plates to be applied above the ears, and two small pieces of wood, one inch long and half an inch in breadth. The bandage is about two inches in breadth, and is made of double cloth, which can be buckled round the head. On both sides, above the ears, are fastened two small boards three inches long, one and a half broad, and half an inch thick, longitudinally perforated with thirty holes at the same distance from each other. At the upper margin, two larger holes are made for fastening the hoop that is bent over the head. The above mentioned pieces of wood have each a large hole, through which the conductors pass, and at their upper margin strong iron wire is fastened, pointed and bent in a right angle. This machine is tied round the head above the eyes. The conductors are passed through the holes in the small pieces of wood, which are fastened by means of the iron wire into the holes of the boards, and are to be placed higher up or lower down, as may be found convenient. Another apparatus, still more simple, is proposed by Dr. Martens, of which he gives the following description: Take two round pieces of cork, one inch in diameter and half an inch thick; push through the centre of each a thin silver wire, three inches long; make on each side, at equal distance from the centre, a hole through the narrow part of the round pieces of cork, through which draw silk strings, each two yards long. Thus the two cork pieces may be placed on the ears, by tying the string under the chin. One part of the silver wire, which reaches into the ear, is wrapped in a little linen, while the other, which is on the outside, is bent as a ring or hook, on which the conducting chains are fastened. The linen, sewed round one end of the wire, must be moistened with salt water before it be introduced into the ear. This apparatus is both simple and convenient, and suits to every head.

[To be continued.]

EXPERIMENTS

EXPERIMENTS, *which tend to prove that the* OXYDS *which are formed on the* SURFACE *of the* METALLIC DISKS *of the* GALVANIC PILE *do not impede the* EFFECT *of its* ACTION, *as has been supposed; and that it has even the Property of supplying the Place of the Circles of Cloth usually employed in the Pile of* VOLTA, *and preserves its Action Fifteen or Twenty Days. By* LA GRAVE, M.G.S.

VOLTA, Vassali, &c. had supposed that this oxyd destroyed the effect of the pile. It is true that the more the surfaces of the metals are exposed, the sooner the effect is felt, and the greater its force. The author composed piles, the disks of which were polished, and the force of which increased as its height. I have, says the author, been obliged, from the inconvenience which resulted, to confine myself to the use of half the number usually employed. I have, however, formed piles with disks which I had oxydated even to the obliteration of every metallic appearance, and which produced not only a sensation, but which served me in every Galvanic experiment. I differ from the ordinary manner of composing these piles only in the greater number of disks which I used; but what is singular is, that the effect was the reverse of what is in general experienced. The pile, well oxydated, produces its effect immediately, and as immediately loses its power; mercury, on the contrary, only acquired it after five or six hours, and retained it fifteen, twenty, or twenty-five days; whereas the pile, as it is generally constructed, affects only for three or four hours. With these same disks I formed piles without any interposition of cloths, and with the alternate disposition of zinc and copper; the effect was nearly the same. The author thinks that the oxyd supplied the place of the cloth. He concludes by observing, that whether this property arises from the power of the oxyds to retain water, he conceives it a fact well worth consideration, and likely to throw much light on the composition of the Galvanic pile.

To Dr. BRADLEY.

DEAR SIR,

THE defective state of our knowledge in several important points relative to the causes and cure of that interesting disease, which goes under the denomination of

Angina

Angina Pectoris, leads me to offer for the Medical and Physical Journal a brief history of a very characteristic case, in expectation that it may tend to call the attention of your readers to the subject, and thus open a field for disquisition and improvement.

I therefore proceed to communicate the case of H—— E——, Esq. aged sixty-eight years, of a spare make, pale countenance, the prime of his life passed in an active military department, fond of company, but not habitually prone to intemperance, and never sensible of any arthritic affection. During a number of years, he was liable, at uncertain periods, to stomach sickness, attended with a degree of syncope, from which he was occasionally revived by a recumbent posture; yet, in this early stage, some time elapsed before the debilitating effects of the fit were surmounted. Two years, at least, prior to his death, (which happened *suddenly* about three o'clock, p. m. the 21st of May, 1803,) the faintish disposition gradually increased, and changed into a sense of suffocation. After this change took place, the impediment in respiration became, at each successive attack, more strangulating; and at length was excited by very moderate motion on foot; sometimes, if the motion were sudden, even on the most level surface, but not by exercise in a carriage, nor on horse-back.

The evening preceding his death, he had walked out easily, and was arrested by a paroxysm, which continued a considerable time, and left a more morbid condition than usual. Between nine and ten o'clock next morning, I was called to visit him, and found him in bed, complaining chiefly of a pain in the centre of the strenum, accompanied with pains affecting both arms, which he referred to the insertions of the deltoid muscles, or those of the coraco-brachiales. His pulse was unequal, slow, and much disturbed by remarkable pauses.

Previous to my visit he had taken some laxative pills, prescribed by an eminent physician in Dublin, soon after taking which he grew sick, and whilst I sat by him he vomited, but had not any degree of dyspnœa, nor other visible derangement of the respiratory functions. I proposed a blister to the breast, in which he readily acquiesced, as it was an application that, he said, gave immediate relief, several years ago, when he was seized with an acute pain in any part of the thorax; but the blister had not time to operate, before the fatal termination arrived.

Several months antecedent to my visit, he had been under the direction of the physician above alluded to, and had

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Arneman's Instruments for extracting the Cataract.

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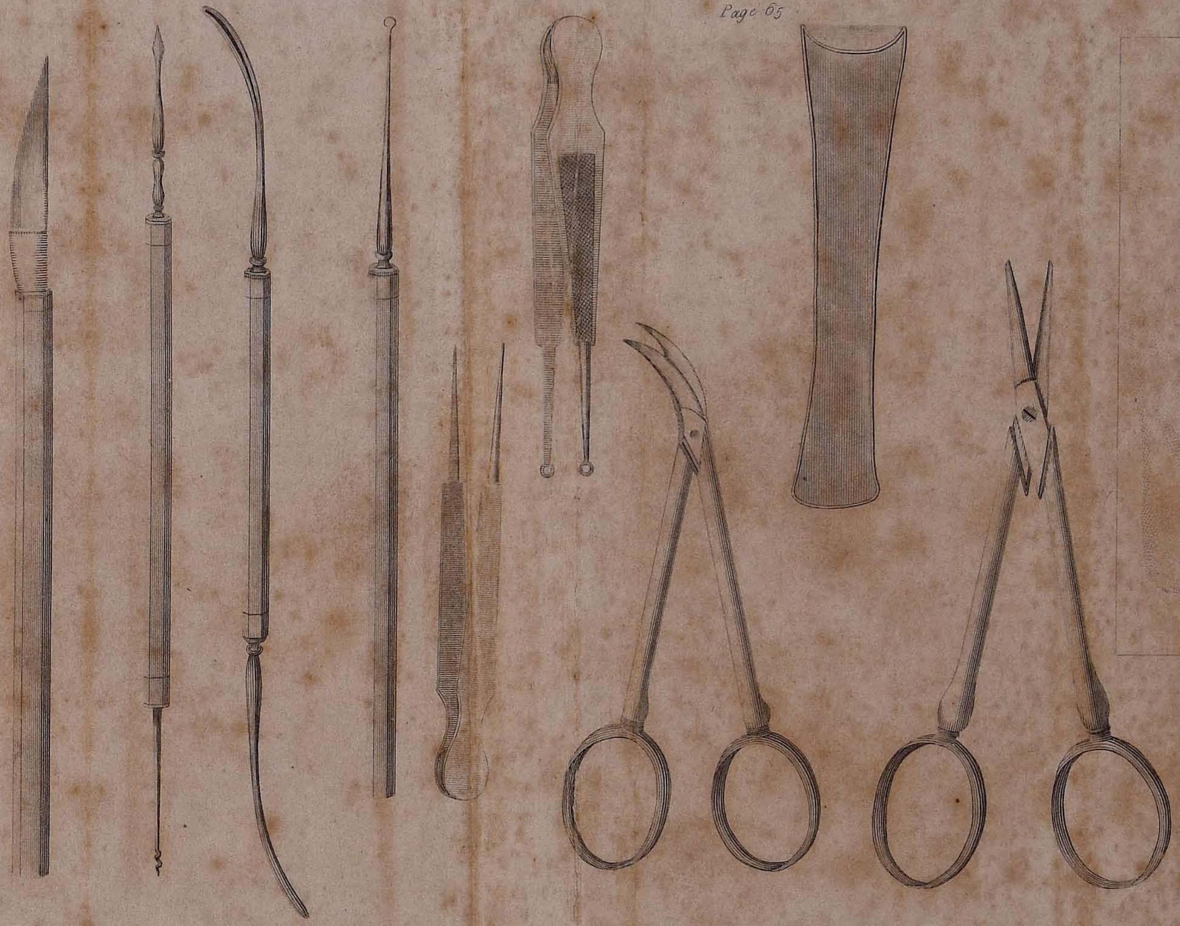

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Disease of one of the Bursæ Muscosæ.

had submitted to the prescriptions of certain inferior practioners, who, as well as I could learn, had advised spirituous aromatic bitters, aloetic laxatives, and *one* issue in the thigh, which was so injudiciously regulated, that it could not be endured longer than two or three weeks. By some of those gentlemen, sulphuric ether was prescribed, to be employed during the paroxysm; but it was used generally with the effect of exciting a discharge from the stomach, and without gaining any curative step.

Three or four months before his death, he had the misfortune to be deprived of a lucrative appointment in the revenue; a misfortune which, doubtless, considering the nature of his malady, conspired to hasten his end. As to the precipitancy of the event, his friends were warned of it; for, on being casually told of his complaints, before I was professionally consulted, I candidly told them, that I was confident his life was not worth an hour's purchase. Some time prior to the catastrophe, he expressed a wish that his body should be opened; but his widow could not bring herself to consent to the operation; and consequently this instructive opportunity was lost.

In order to pursue and promote the object of this communication, it is my intention, as soon as circumstances shall allow, to transmit to you observations touching this case, and on as many publications treating of the same subject, as have come within the reading of,

Yours, &c.

Londonderry, June 11, 1803. W. PATTERSON.

Professor ARNEMAN'S INSTRUMENTS *for extracting the* CATARACT.

[With an Engraving.]

THE extraction of the cataract is undoubtedly an operation which requires the greatest nicety, skilfulness, and steadiness of hands in the operator, as also a construction of the instruments most accurately adapted to the delicacy of that operation. It cannot be denied, that this branch of operative surgery is executed with particular success by several oculists, and other medical men of Germany; and however inferior they may consider themselves to the English surgeons in many parts of surgical operations, they think themselves entitled to claim, if not the superiority, at

at least the same merit and dexterity in performing this delicate operation. Amongst the medical gentlemen of that country, who have acquired great celebrity in this respect, Prof. Arneman, of Gottingen, deserves to rank high, as not only the great number of patients who have regained the happiness of sight through his skilful hands and prudent management, are the surest pledges of his abilities, but also several improvements which he has made on the instruments and modus operandi, manifestly shew how intimately he is acquainted with the nature of that operation. We feel particular satisfaction in communicating to our readers an abstract of a chapter from Prof. Arneman's treatise on the diseases of the eye, which make the second volume of his useful System of Surgery, a judicious compendium of that art, not long ago published at Gottingen.

"When we consider, the author says, the various forms and the great number of instruments invented for the operation of the cataract, and particularly for the incision of the cornea, we may be led to think either that the figure and structure of the cornea is differently formed in the individuals of different nations, or, this being improbable, that this part of an operation, which requires so much nicety and skilful management of the hand must have often been performed in a very rude manner, and we may thus account for the ill success with which this operation is so frequently attended. On comparing the knives invented at the first period, when the extraction of the cataract was established by Daviel; the narrow instruments of La Faye, Palucci, Sharp, Warner, with the broad lancet of Mr. Wathen in our present times; on reviewing the bicuspid knives of Poyet and Siegwart; the knives of Boranger and Casamata; the serpentine knife of Tellier; the long and pointed knife of Siegerist; the small pen-knife of Muller; the knives of Wentzel, Richter, Lobstein, Bell, Mursinna, and others; the long knife of Barth and Beer; and the triangular pointed knife of Santerelli; it is hardly possible to imagine how so small a part, having only a few lines in circumference, as the surface of the cornea, could have admitted of such a variety of inventions, without their proving for the most part prejudicial to the operation.

"It is obvious to remark, that a proper and convenient form, as well also as the size of the instrument, must in a great measure influence the good or ill success of the operation. An instrument which is too narrow will make an incision in the cornea not sufficient for the crystalline

lens

lens to pass through, without its being broken to pieces, or without the mucous coat being stript off and thus remaining in the eye, which renders it necessary to enlarge the incision, whereby the sight of the patient may be injured either by the scar of the wound, or by a cataracta secundaria. Another objection may be urged against the broad instruments, which by making the incision too wide at once, suffer the cataract to pass out too suddenly, whence it not unfrequently happens, that by its being protruded with some violence by the contraction of the bulb of the eye, a prolapsus of the vitreous humour is produced, and in this manner the interior parts of the eye become more liable to inflammation. The instruments formed in the shape of a lancet have the inconvenience of making an irregular incision; the exit of the instrument, when used for cutting the cornea, not being situated exactly opposite in the same line where it had entered the cornea, which will make the opening of the cornea appear in an inclined direction. The exterior angle of the cornea suffers besides a greater pressure from the knife; and we may frequently observe, that the cornea, from the incision not being quite regular, nor equally wide in every dimension, will be greatly injured, and not be brought to heal by simple union, but begin to ulcerate in a more or less degree; a circumstance by which an opacity is often occasioned, to the greatest distress and disadvantage of the patient as well as of the operator."

Induced by these considerations, and guided by his own experience, Prof. Arneman has found that knife to be best calculated for the incision of the cornea, which is engraved in the annexed plate, fig 1; and he is inclined to ascribe, in some measure, to this improvement of the knife, the success with which his operations were subsequently attended.

DESCRIPTION OF THE PLATE.

Fig. 1. Represents the knife of Prof. A. for the incision of the cornea, made by the justly celebrated Mr. Savigny, of London, after a pattern sent to him from Gottingen. The back of the knife is exactly in a straight line; its point is narrow, sharp, and gradually increasing in breadth; it is convex on both sides. It passes through the cornea with great ease, and never permits the aqueous humour to run out, before it has made its way through the camera anterior of the eye, and the incision becomes regularly semicircular. The blade of the knife measures, at its broadest part, about three lines, which is jusly adapted to let the lens pass through easily. The handle is octogonal, and a little flattened or compressed.

Fig. 2. A broad needle, shaped like a lancet, which may be used for couching the cataract. Prof A. however, sometimes employs this instrument

strument for opening the capsule of the lens. To the inferior part of the handle is adapted a small screw, somewhat resembling a cork-screw. This instrument was occasionally invented by Prof. Arneman in a case of operation, where the crystaline lens adhered pretty strongly to the iris with almost its whole circumference. This instrument however being screwed into the middle of the cataract, it was easily detached; and being gently moved in all directions, it came away with great ease. With this instrument, the lens is easily extracted, together with the capsule; but if the cataract is rather dissolved and of a pulpy consistency, it is difficult, if not impossible to fix the screw. This inconvenience, however, may in a great measure be remedied by the screw being made double.

Fig. 3. Represents at the upper part a small spoon like that of Daviel. It will be found of great use for taking away mucous particles and filaments, also small detached pieces of the cataract, &c. At the lower end Mr. A. has adapted a similar instrument without a canula, flat and smooth on both sides. It proves very serviceable for lifting up the part of the cornea which is cut, and it is likewise of great use in assisting the passage of the cataract, if it is generally pressed on the inferior part of the bulb of the eye, as this cannot be done so conveniently and nicely with the finger.

Fig. 4. Represents a small, semi-circular hook, which Prof. A. makes use of for the purpose of taking out the cataract, a method which may be recommended as a very useful improvement. After having made the incision of the cornea, Mr. A. without opening the capsula of the lens, applies this small hook through the pupil, with the point turned outwards. Turning the instrument in the pupil, he fixes the point of the hook from below in the centre of the cataract; by which means, without doing the least injury to the eye, either by pressure or irritation, the cataract being pulled out gently and generally along with the capsula. By this method the eye is guarded against a cataracta secundaria, formed by the opacity of the capsula.

Fig. 5 and 6. Two pair of nippers or small pincers for extracting filaments, for which purpose the pointed one seems to be particularly calculated.

Fig. 7. A broad hook for lifting up the upper eye-lid during the operation.

Fig. 8. A curved and concave bladed pair of scissars. The figure will not give a clear idea of this instrument without being explained by a description. The instrument is merely represented with a curved blade, but it is very essential that the blade be made concave. Prof. Arneman has invented this instrument for the operation of the cataracta secundaria. It is generally agreed, that the cataracta secundaria is beyond the limits of the art; but in some cases this gentleman has succeeded in removing this disagreeable complaint. The secondary cataract is often caused by the capsula lentis remaining in the eye and becoming opaque; sometimes some mucous matter, detached from the cataract, occasions this defect. It however more frequently originates from the extravasation of lymph, by which the iris is obstructed, in consequence of an inflammation of the interior parts of the eye, produced in rheumatic or gouty habits, and by any injury sustained during the operation. In this case, after having opened the cornea a second time, he makes a circular incision in the iris with the above scissars, and in this manner the patient's sight is restored.

Fig. 9. A pair of straight scissars for different purposes, particularly if the cataract adheres to filaments, which are to be cut through. For the operation itself, they are of no immediate use, in which Prof. A. condemns, on the whole, all sorts of scissars as useless and prejudicial.

Prof. A. has communicated in his Treatise on the Diseases of the Eye, several interesting and new methods of treatment, which we shall lay before our readers at some future period.

DISEASE *of one of the* BURSÆ MUCOSÆ.

[With an Engraving.]

IN the course of last winter, while engaged in dissecting the bursæ mucosæ of the human body, I discovered two new bursæ on the knee, and one on the elbow joint.

A description of these sacs will, I hope, be not uninteresting, particularly as I have since found the former of them to be frequently the seat of a disease, which in its early stage might be mistaken for one of the symptoms of white swelling of this joint, and which in its advanced stage has, I suspect, been generally considered as an encysted tumour.

An incision made through the integuments from the upper edge of the patella to the knob of the tibia, discloses two bursæ mucosæ; the superior of these sacs is seated on the upper part of this patella, the inferior does not reach so low down as the lower joint of the bone. These sacs are separated from each other by a common transverse partition, in which I have not found any hole of communication. The parietes and glairy contents of these sacs very strongly resemble those of the other bursæ mucosæ; so that we cannot doubt but that they are of the same nature with the other bursæ, although they differ in their situation as not being interposed between tendons, or between tendon and bone.

These bursæ on the patella are equally, and in my mind, more liable than other bursæ to an accumulation of their natural fluid, causing a disease productive of much distress to the patient. A knowledge of this disease will assist us in discriminating the various diseases of this joint, and may rescue the patient, in many instances, from that severity of treatment which is generally adopted in incipient white swellings. As this accumulation presents very different appearances in its incipient and in its advanced stages, I shall speak of each stage separately.

In the incipient stage, a tumour, the size of a wallnut, is to be seen on the fore part of the knee, below the middle height of the patella. By a slight attention it is ascertained that this tumour is seated above, and not under the ligamentum patellæ. This tumour gives to the finger neither a sense of fluctuation nor of elasticity, it readily yields to the finger, and indeed more readily than I recollect any other tumor to yield; the sensation to the finger is as if the tumour changed its place. On removing the finger no pit-

 ting,

ting remains, the tumour instantly regaining its former appearance. The tumour in this stage is subject to an occasional increase and decrease; by what local or constitutional circumstances these changes are induced, I have not been able to ascertain. The patient is free from pain except when he attempts to bend the knee much, or to kneel, and this posture is very distressing to him.

I cannot undertake to say how long the disease may remain in this state; I have seen some cases where it had continued for eighteen or twenty months.

This stage of the disease much resembles a symptom frequently attending white swelling of the knee; the symptom I allude to, is a swelling which appears between the lower point of the patella and knob of the tibia, and which is seated in the bursa that lies *under* that ligament. By attending to the situation of these two tumours we can discriminate with certainty. For the cure of this accumulation in the superficial bursa, (at this stage) I have tried frictions with various stimulating liniments, but cannot say that my patients derived material or permanent benefit from the practice. I have also advised pressure by means of sheet-lead and a tight bandage; this practice, in one case, caused a rupture of the bursa, an effusion of its contents into the surrounding cellular and ligamentous substance, and I believe effected a perfect cure, at least the patient did not return.

All the patients whom I have seen labouring under this stage of the disease, have been among the working class, and a very large majority have been servants of the female sex. Although this disease does not endanger life, nor (when its nature is known) threaten the loss of the joint, or even induce constant pain, yet as it prevents these poor people from earning a subsistence in, perhaps, the only mode of which they are capable, it must on this account alone attract the attention of the humane practitioner. We trust therefore that the exertions of humanity and science will soon prove successful in discovering an effectual cure for this wretched class of patients.

I have met with not a few instances of what I term the second stage of this disease, or the state of extreme accumulation of synovial fluid in these bursæ, and from them I deduce the following characters of this disease.

A globular tumour larger than a hen's egg, is seen on the fore part of the knee; integuments covering the tumour at first are not discoloured, but in the latter periods of the disease these become red and inflamed. The patient suffers

more

more or less uneasiness in kneeling, and some are altogether incapable of this posture. The tumour undergoes occasional increases and decreases of size. The causes of these changes I am yet unacquainted with. An obscure fluctuation can be felt. The patella is almost concealed by the tumour; upon a close examination, however, the upper edge of this bone will be felt, and will be found to enjoy its usual mobility. When the patella is moved by the fingers, the tumour does not seem to be moved equally with it. The inflammation of the integuments is attended with a good deal of pain, and generally terminates by an ulceration; this communicating with the cavity of the sac, allows a large quantity of glairy fluid to escape; and a large dense slough is in a few days cast off; after which the glairy discharge daily decreases, and the part completely heals; more frequently, however, a small discharge continues to ooze through the orifice, now become callous. In one instance I saw the inflammation of the integuments dispersed by the application of aq. lithargyri acetati, although it had been so far advanced as to make me suspect an ulceration and opening of the sac.

When the ulceration of the integuments and bursting of the sac is about to take place, the integuments will be found most thin at the very apex of the tumour.

This stage of the disease has been, as I suspect, generally considered and treated as an encysted tumour. If the foregoing description accurately mark the disease, we shall at least enjoy the satisfaction of treating a disease, whose seat we know to be limited, (to these bursæ) and whose inflammation probably will not spread to the cavity of the joint; an apprehension which, I doubt not, has induced the practitioner frequently to leave this disease to its natural cure, the spontaneous bursting of the sac. The patient will thus be more speedily relieved from his disease, and the practitioner will administer that relief with perfect security.

In this advanced stage of the disease we cannot hope to effect a removal of the tumour by any topical or constitutional remedies; although we may sometimes succeed in resolving the inflammation of the skin, and thus for the time prevent the bursting of the sac.

The only mode of treatment which I have seen successfully used was, making a small incision into the tumor. In the last case where this treatment had been used, the incision was made, not into the apex, but in the inferior (or most depending) part; and I remarked, that after the third

day from the incision, the glairy fluid could not be pressed out by applying the fingers in the vicinity of the incision, while it flowed in large quantity if the pressure were applied to the apex of the tumour.

From this circumstance I have been induced to think that the tumour may with more advantage be opened by an incision made into its apex; for thus we shall obtain an uninterrupted drain for the fluid, and we also hope that the lining membrane of the cavity will more readily and more speedily be affected by inflammation, and thus the cavity be completely obliterated.

Query, Would it not be advisable to attempt the cure of this stage by the same means as are used for the cure of Hydrocele, by injection? We are not to apprehend a higher degree of inflammation from this treatment, than would attend an incision; and even though a higher degree of inflammation should follow, we shall not be under apprehension that the cavity of the joint will be engaged in it. Besides, we have reason to hope, that the inflammation excited by the injection will be sufficient, with the compression of a roller, to cause an accretion of the sides, and an obliteration of the cavity of the sac.

Having discovered these bursæ on the patella, I was led by analogy to suspect the existence of similar sacs on that part of the ulna where it is covered only by the common integuments. By making a longitudinal incision through the integuments of this part, I readily discovered a bursa, the capacity of which is such as would contain a body larger than a filbert nut.

I have seen only one instance of disease in this bursa. The patient laboured under venereal pains of his limbs; and in the site of this bursa, on one arm, was a tumour the size of a pigeon's egg, and which felt as if filled with a soft fatty substance. This tumour yielded with his other venereal syptoms to the use of mercury.

From the situation of these bursæ, on bones covered only by the common integuments, we may infer, that the use of these sacs is more extensive than has been hitherto supposed, as they seem to protect the skin from the effect of pressure against the bone.

Dublin, May 12th. 1803. X.

P.S. The drawing exhibits two views of the alteration induced in the form of the joint by the second stage of this disease. The drawing was taken from a cast in plaister of Paris.

To

To the Editors of the Medical and Phyfical Journal.

GENTLEMEN,

PARTICULAR circumstances having induced me to make a very extensive enquiry concerning the progress and nature of the Influenza, I have before me a great mass of opinions and facts, with permission to make them public. Your Journal would, I think, do infinitely more justice to my correspondents than a separate publication, and if you can spare them and me room, I will place the returns to my queries in order, and add a commentary. The whole will make three communications sufficiently long, of which the first may appear in your next number.*

Clifton, I am, &c.
June 17, 1803. THOMAS BEDDOES.

To the Editors of the Medical and Phyfical Journal.

GENTLEMEN,

I Beg leave to state to you a few Observations that have occurred to me, upon a subject of great importance to the Medical Faculty at this momentous period.

For the necessary defence of these kingdoms in the present situation of public affairs, it seems that a new Income Tax is to be adopted, and an additional military force is to be raised. I am happy on many accounts to see, that a large sum of money is to be produced within the year, instead of resorting to the funding system for our supplies; but unless medical receipts be calculated with great tenderness, the contributions from them will be proportionably greater than from the other classes in society. The stability of medical practice is peculiarly uncertain, and the establishments of the Faculty are necessarily considerable; consequently, it seems extremely hard to rate their incomes equally with such as are more durable, and do not

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* The Editors much approve of Dr. Beddoes's proposed mode of publishing his communications on the late Epidemic, and they will certainly accommodate him in the best manner in their power, if the manuscript arrives in time.

not require servants, horses, or carriages for their production. Again, in the proposed plan for national defence, I think it will be reasonable to excuse the military services of every medical practitioner who agrees to contribute his professional assistance whenever the enemy lands upon the coasts of these kingdoms, or when the country is in *imminent danger* of being invaded. I will not enlarge upon either of these topics, because I presume that the propriety and force of them must be acknowledged by every one; and I think, if they were properly represented to Government, some relief would be afforded to us. I therefore recommend that a meeting of Physicians, Surgeons, and Apothecaries should be immediately called, and some plan of harmony and co-operation entered into, in order to place the Faculty upon an equal footing with the other classes of society. I am, &c.

June 20, 1803. MEDICUS.

MONTHLY REPORTS.

Cases admitted under the Care of the Surgeon of the Finsbury Dispensary, St. John's Square, Clerkenwell, from May 10, *to June* 10, 1803.

Ophthalmia	1	Spinæ Incurvatiæ	2
Abscessus Artuum	4	Hernia Incarcerata	1
——— Psoas	1	Dysecœa	1
Mastodynia	3	Rachitis	1
Ulcera Artuum	11	Varix	1
Vulnera	4	Tinea	1
Contusiones	9	Psora	5
Lues	4		
Gonorrhœa	2	Total	53
Scrophula	1		

In a former Number of the Medical and Physical Journal, I related a case, and offered a few observations respecting the disease of Hydrocephalus; since that time several cases of the same nature have presented themselves to my knowledge, two of which were attended with or rather succeeded by circumstances of a rather peculiar aspect, but similar to each other, though in patients of a very different age. The first case was in a youth of seventeen,

teen, who had every well-marked and authentic symptom of the disease Hydrocephalus, and which were extremely severe: they yielded however, after a short time, by the free use of drastic purgatives, vesication of the scalp, and slight mercurial friction. The peculiarity of the case did not occur till convalescence had far advanced; when, being considered as free from danger, he was suddenly afflicted with perfect dumbness, in which state he remained several weeks, apparently in good health, but unable to express his wants or his sensations, except by writing: he was in a state of extreme mental uneasiness from the consciousness of his situation, and was continually expressing a wish, by writing, that some person would cut his tongue, pointing at the same time to the frænum of the tongue, and endeavoured himself to obtain any sharp instrument for that purpose, more with a wish to satisfy his desire than with any expectation of advantage. A person made a slight wound with a pair of scissars in the frænum, when immemediately, to the astonishment of all present, he exclaimed with great joy, that he was well, and from that time he spoke as usual.

I shall make no remarks on this case, as the way in which such a circumstance could act is to me quite unintelligible.

The other case was in a child of three years old, who was afflicted with Hydrocephalus, which yielded to blisters on the head: Strong cathartics of elaterium, calomel, and gumboge, and the cinchona with iron towards the last. As he became convalescent, he likewise lost the power of utterance, which defect continued several weeks; but from which he recovered, not by any agency of an unaccountable operation, but by the rational application of electricity, which produced its good effects in a few repetitions.

In this latter case, the circumstance which I had remarked on a former occasion, viz. the necessity for very violent doses of cathartics in this disease, was peculiarly manifest; as the bowels of this child could not be acted upon by a less quantity for each dose than of elaterium, gr. ij; calomel and gumboge, aa. gr. v.

No. 68, Hatton Street, J. RICARDS.

Account of Diseases in an Eastern District of London, from May 20, to June 20, 1803.

ACUTE DISEASES.	
Typhus Mitior	6
Scarlatina Anginosa	4
Ophthalmia	2
Acute Rheumatism	6
CHRONIC DISEASES.	
Cough	7
Dyspnœa	4
Cough & Dyspnœa	9
Phthisis Pulmonalis	4
Hydrothorax	3
Ascites	2
Anasarca	4
Cephalalgia	7
Gastrodynia	10
Dyspepsia	6
Enterodynia	3
Procidentia Ani	2
Hæmorrhois	4
Diarrhœa	3
Obstipatio	5
Dysuria	2
Hypochondriasis	4
Hysteria	3
Fluor Albus	7
Rheumatismus Chronicus	10
PUERPERAL DISEASES.	
Menorrhagia Lochialis	4
Enuresis	1
Peritonitis	3
Mastodynia	6
INFANTILE DISEASES.	
Convulsio	2
Vermes	4
Ophthalmia	3
Aphthæ	4
Herpes	7

The late epidemic seems now to have entirely subsided, and the general state of health to have much improved. There have, however, been a few instances of typhus, but it has appeared under a mild form, and has generally terminated favourably.

Scarlatina anginosa has prevailed amongst children, though the symptoms have not been very severe. The tonsils were slightly swelled and inflamed, and deglutition was attended with some difficulty. In a little time an efflorescence appeared on the skin, and general symptoms of fever prevailed. The disease appearing in this mild form, very soon gave way to the usual treatment.

The disease, in every instance at present referred to, was followed by general anasarcous swellings; these, however, disappeared in a few days, and left the patients in perfect health.

CRITICAL

CRITICAL ANALYSIS
OF THE
RECENT PUBLICATIONS
ON THE
DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

The Natural History of the Human Teeth, including a particular Elucidation of the Changes which take Place during the second Dentition, and describing the proper Mode of Treatment to prevent Irregularities of the Teeth. To which is added, an Account of the Diseases which affect Children during the first Dentition. Illustrated with Thirteen Copper-plates. By JOSEPH FOX, *Member of the Royal College of Surgeons, London; and of the Society of Medicine, Paris.* Quarto, pp. 113. London, 1803.

THE author of this truly useful, accurate, and judicious work, after stating the great and increasing attention now paid to the teeth in country towns as well as the metropolis; the great increase of this branch of surgical practice, and consequently the necessity of practitioners duly qualifying themselves, observes, "A knowledge of the changes which the teeth undergo, and the circumstances which attend the progress of the second dentition, is highly necessary, as no safe or successful practice can be expected without a correct acquaintance with the anatomy and natural history of those parts.

"Mr. Hunter's work is the best book upon this subject in our language; but although he speaks of the second dentition, and of the irregularity of the teeth, it is only in general terms; neither has he given an exact or precise description of the proper treatment, so as to lead any person to undertake with confidence the right management of the teeth during this period.

"The extensive acquaintance I have had (says Mr. F.) with medical men, has given me an opportunity of discovering how useful and important they would deem a clear and practical work upon the different stages of dentition. Being possessed of a series of preparations, exhibiting the teeth under all their changes, and having been honoured with such a share of practice as to enable me to speak with confidence, I have ventured to present to the public those observations which I have been able to make, accompanied with engravings accurately illustrating the subject."

The author then proceeds to treat, in a concise and practical manner, 1. Of the Formation of the temporary Set of Teeth. 2. Of the permanent Set. 3. Of the Manner in which the Teeth are formed,

formed. 4. Of the Shedding of the Teeth. 5. Of the Irregularity of the Teeth. 6. Of the Means of preventing it. 7. Of the Means of curing or remedying Irregularity. 8. Of supernumerary Teeth. 9. Of the Decay of the temporary Teeth. 10. Of the Diseases which attend Dentition. 11. The Analysis of the Teeth, by Mr. Pepys.

The book is beautifully printed, and the plates are particularly fine, and well chosen to illustrate the subject.

Every reader of this valuable work, we believe, will confess that the author has omitted nothing that can be of practical utility, nor inserted any thing that is not highly interesting to the physiologist as well as the practitioner.

An Account of the Discovery of the Power of Mineral Acid Vapours, to destroy Contagion. By John Johnstone, M. D. 8vo. pp. 38. London, 1803.

The object of this pamphlet is to assert the priority of discovery in favour of the late Dr. James Johnstone, senior, of Worcester.

Dr. J. after a few observations on the use of acids internally in fevers, which have been recommended from the earliest times, proceeds to state the dates and facts respecting fumigation.

" In 1802, the Report of the Committee of the House of Commons, on Dr. C. Smyth's petition, states a sentence of Dr. Lind; ' That a certain method of destroying infection in places from whence persons cannot be removed, is a desideratum not yet obtained in physic. Many things had been proposed and tried, but without effect.'

" Nearly fifty years before the framing of this Report of the Committee of the House of Commons, a country physician had acquired eminence by the discovery of a certain method of destroying infection, which could be used, with perfect convenience, in the apartments of the sick. In 1758, Dr. James Johnstone published his ' Historical Dissertation concerning the malignant epidemical Fever of 1756, with some account of the malignant diseases prevailing since the year 1752, in Kidderminster.' In that dissertation, adopting the theory of the day, he proposes to keep the air free from putrefaction, by the steams of vinegar; or, as a more effectual method, ' the marine acid may be raised very easily, by putting a certain quantity of common salt into a vessel, kept heated upon a chaffing dish of coals; if to this a small quantity of oil of vitriol is, from time to time, added, the air will be filled with a thick white acid steam.' It is fortunate for the fame of Dr. Johnstone, that this discovery was published at the time. He had used the mineral acid vapour to correct the contagion of putrid fever in his earliest practice. The advantage derived from it became so well known in Kidderminster, that the manufacturers, during the prevalence of fevers in that town, spontaneously placed the fuming vessels in their shops; and Dr. J. continued to use the muriatic vapour in his extensive

tensive practice, to the last hour of his life; yet all this would have availed little, had it remained a mere matter of prescription. It would have been neglected or undervalued, and perhaps the practice and discovery altogether denied. I shall not dwell on these possibilities. It *was* published in 1758, as having been practised in 1756; and the book attracted so much notice, that the whole edition was quickly sold.

"But it falls to my lot to discharge an important duty to science, and to the memory of my father. It is denied, that the muriatic vapour can be used with convenience in the apartments of the sick; and some men affect to doubt, whether it be of equal efficacy with the nitric acid vapour, which has been lately (near fifty years after the muriatic was used for the same purpose) called a discovery. On both these points I shall appeal to a few simple facts.

"It would be useless to enter upon such a detail of cases as I could collect from the books of my father, consisting merely of names and prescriptions, without any regular statement of symptoms, or of the particular operation of medicines. Such a detail would only prove that the muriatic vapour was used subsequent to the year 1756, of which any proof is unnecessary, since the publication of the Dissertation on Fevers.

"Mr. Crane, the present eminent and respectable surgeon in Kidderminster, is prepared to give the fullest testimony, that the muriatic acid vapour was so commonly used, when he first settled in business, more than thirty years ago; that the manufacturers placed it spontaneously in their shops, when fever was apprehended; and that, in malignant cases, it was always ordered by my father. He remembers Mr. Cooper and Mr. Symonds, two old and eminent surgeons of Kidderminster, who were employed with my father in his earliest practice, to have frequently mentioned the discovery of the muriatic vapour, and the use of it, in the fever of 1756; and its continual use, when occasion called for it, from that period.

"Dr. Johnstone's method of using muriatic acid vapour was as follows:—Put one pound of common salt into an earthen vessel, and pour over it, from time to time, a small quantity of vitriolic acid, till the whole salt is moistened. If the air is foul, and peculiarly offensive, the vessel may be heated, to extricate a larger quantity of vapour; but, in a common way, the addition of the acid to the salt will answer, without applying heat, in rooms from fifteen to twenty feet square.

"Dr. Smyth's formula is:—Put half an ounce of vitrolic acid into a crucible, or glass, or china cup; warm this over a lamp, or in heated sand, adding to it, from time to time, some nitre. These vessels should be placed at the distance of twenty or thirty feet from each other, according to the height of the ceiling, or virulence of the contagion.

"If, in Dr. Smyth's way, only such a quantity of nitre be added, from time to time, to ½ an ounce of heated vitriolic acid, as shall be decomposed

decomposed gradually in the space of 15 square feet, no wonder that the vapour should be productive of little inconvenience, for it must be in so diluted a state as to be scarcely perceptible. In the same space, as much common salt as can be decomposed by two ounces of vitriolic acid may be borne without any cough, or interruption of respiration, if the immediate stream of rising undiluted vapour be avoided, i. e. four times as much. According to Dr. Smyth's directions, an apparatus, and the application of heat, are required, which are always troublesome in a sick room.

"Dr. Johnstone's whole apparatus is an earthen dish filled with salt, which may be placed in a corner, and requires no attention.

"The muriatic vapour is always attended by a visible cloudiness of the air of the apartment, a quantity of humidity being precipitated as it rises.

"The nitric vapour is more transparent and invisible, and in one instance suffocation had nearly taken place in a very large room, from its over accumulation. I do not deny that muriatic vapour may also suffocate, or excite cough, but it does not occasion these symptoms in a greater degree than the nitric. Nor do I deny that the nitric vapour may be used with efficacy and convenience to correct contagion. But I aver that the muriatic is equally efficacious, and may be used, at least, with equal convenience; that it is equally mild, and equally safe, in like quantities.

"The following facts will prove this assertion:"

Dr. J. then adduces a number facts and experiments to demonstrate the truth of his conclusions, and which appear to us highly satisfactory.

About a month ago, we received an anonymous communication from Staffordshire, in which the discovery of acid fumigation is given to the late Dr. James Johnstone, senior, of Worcester; and a case is detailed where it was successfully employed in arresting the contagion of the scarlet fever and sore throat.

On the Influenza, as it prevailed in Bristol and its Vicinity, during Part of February, March, and Part of April, 1803. *By* JOHN NOTT, M. D. Octavo, pp. 25. Bristol, 1803.

"THE history of epidemics," says Dr. N. "is perhaps the most curious and interesting of all researches in medicine and philosophy; no diseases are involved in more obscurity; none have received less light from investigation; and, could we satisfactorily trace their origin, none would give us greater insight into natural causes; but such discussion does not belong to these pages."

After mentioning the similar epidemics recorded by authors from 1510 to this time, Dr. N. proceeds to consider the *remote* CAUSES, and thinks them ascribable to some peculiarities in the constitution of the air, which have hitherto eluded all medical research.

"The *predisposing* causes must rest with the persons attacked by it; those, who from an irritable state of the Schneiderian membrane,

brane, or from extreme tenderness and susceptibility of the lungs, are most liable to the common catarrhal cold, have been most readily affected.

"The *proximate* causes, I presume, are those morbific miasmata, of whatever nature they may be primarily, which float in the air, and, being inhaled by the mouth and nostrils, excite the disease.

"How far the halitus, and contact of those infected with it, can be immediate causes, involves the question of contagion, which has been much controverted; it has found, for and against it, many and zealous partisans; I am not competent to decide upon it; but I have strong reasons to entertain doubts of the disorder being contagious.

"I have seen two or three persons of a numerous family attacked with this influenza, and after a fortnight, perhaps, they have completely recovered. Another fortnight has elapsed, and others, who have sat at meals at the same table, been constantly in the same society with those first infected, have then fallen ill; the first infected not partaking of the complaint a second time. Surely this is very unlike contagion. If contagious, when any individual of a society had the disease, it is most likely the rest of the same society would have caught the infection one after another; and those first infected would have had it a second time, on the rest falling ill, who might, in the first instance, by accident, have escaped; for it does not seem a law of the disease to attack but once: many have relapsed, who, to all appearance, were got perfectly well.

"Again, I have known whole families, considerable in number, affected with it, masters and servants, on one and the same morning, or evening perhaps; to suppose that each caught it from the other, argues a rapidity of infection, that no poison hitherto known, I fancy, ever yet occasioned. But these persons were living in the same atmosphere, under the same circumstances, most likely on the same diet, and from similar habits acquiring, possibly, similar dispositions towards susceptiblity. This may account for such a sudden general attack.

"Numerous instances also have happened within every person's knowledge, of married couples, one of whom has contracted the complaint, while the other has continued exempt during the whole period of its prevalence; without the idea of separate beds once occurring, or being adopted as a prevention.

"Nor does any marked boundary seem to restrain its predominance. Surely the width of the British Channel, and the adjoining extents of land on either coast, were sufficient to prevent contagion passing between London and Paris; at both which places it raged with violence at the same exact period. Indeed, in former influenzas prevailing here, foreign countries have never failed to be affected by them, in some quarter or other, though not so immediately at the same juncture.

"The great uncertainty, and sometimes rarity of its propagation

in public seminaries (which must be considered as forming a very excellent test) might, from the reports of well-informed and observant practitioners, incline us to an opinion of the malady not being contagious.

"Moreover, remote villages, and solitary houses, we learn from good authority, have been infected with it, at the very precise time it has appeared among large cities, where it would naturally make a more seeming rapid progress, from the predisposing causes prevailing more in them, and the general constitution of the animal frame being more weak and susceptible.

"My belief then is, till further investigation shall correct my judgment, that this influenza is epidemic only, not contagious."

On the treatment at the commencement, Dr. N. has made an observation which we believe is peculiar to himself.

"As this complaint is particularly sudden in its attack, so does it seem to admit of very sudden suspension. A full dose of tincture of opium, that is, perhaps thirty drops, taken at bed-time, has seemingly cured the patient for the whole of the next day; more especially, I have remarked, if any way suffering from its subsequent effects as a narcotic; but the succeeding day it has returned with redoubled violence, as though determined to have its course. From 30 to 40 drops of the following compound tincture, viz. tincture of fox-glove, tincture of opium, of each two parts, tincture of squill one part, mixed, taken once in six hours, would alike cause a suspension temporary only.

"To remedy this disorder, the same intentions of CURE as we observe in the common catarrhal cold were all that, I believe, our medical practitioners adopted. To equalise perspiration throughout the system, and for a time to keep it increased, seeing that all the other natural functions of the body were duly regulated, appeared the main object. In the influenza of 1782, some writers on the subject told us, that the disease passed off in proportion as a tendency to perspiration was observable; this shows how Nature would effect a cure of her own accord, and how nearly therefore we ought to imitate her in our intentions."

Cases of the successful Practice of Vesicæ Lotura for the Cure of diseased Bladders. Part I. Second Edition, 8vo. pp. 47. Part II. with a Plate of the Apparatus: And also, Cases of diseased Affection from Phymosis, with a new Mode of operating, and Plate of the Instrument for performing it. By JESSE FOOT, Esq. Octavo, pp. 92. London, 1803.

THESE pamphlets contain thirteen cases of diseases of the bladder, attended with great distress to the patients, cured, or greatly relieved, by injecting the bladder with proper fluids. To these the author has added six cases where the dysuria, and affections of the bladder and kidnies, proceeded from phymosis, or too small a perforation of the glans penis.

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This work merits the attention of Surgeons, and is likely to lead to considerable improvements in the manner of treating diseases of the urinary organs.

Medical Directions for the Use of Navigators and Settlers in Hot Climates. By THO. M. WINTERBOTTOM, M. D. *Physician to the Colony at Sierra Leone.* 1803, pp. 144. 8vo.

AN intelligent medical man, who has resided four years at Sierra Leone, must be familiar with most of the diseases and accidents of tropical climates, with which Europeans are likely to be affected. The Author of this useful little work, introduces it to public notice in the following simple and unassuming manner.

"The medical directions contained in the following pages were originally written at Freetown on the coast of Africa, for the use of such trading vessels in the service of the Sierra Leone Company as were unprovided with surgeons.

"Having been favourably received, and applied, on many occasions, with a beneficial effect, they are now presented to the public under an enlarged form, with the hope that they may become more extensively useful to Europeans, whose pursuits, in hot climates, often lead them into situations where medical assistance cannot be obtained.

"The directions are purposely written in a plain, familiar manner: in order to render them more intelligible, and more easily applicable to practice, a few cases have been added of persons labouring under some of the diseases described. Technical terms have been carefully avoided, and no expressions are used, but such as, it is presumed, must be well understood by the generality of readers.

"The methods of cure recommended, are for the most part such as the author found successful during his residence at Sierra Leone, where, for nearly four years, the health of more than fourteen hundred persons was entrusted to his care."

The first observation which the author makes is rather too general. He says, "Europeans upon their first entrance into a tropical country are too apt to have their minds impressed with ideas of danger from the climate. The great increase of heat is the first inconvenience they experience, and in general, that which they most dread, &c." It is true, that the risk to health incurred by a change from cold or temperate to tropical climates, is a matter of common observation, and is a great source of anxiety to the friends of those whose duties or pursuits lead them thither: but has not melancholy experience shewn, in numerous instances, this apprehension is but too well founded? The fault of Europeans, at least of Englishmen, in such circumstances, is too blind a confidence in the vigour of their constitution, and an obstinate rejection of those precautions which the experience even of the natives of tropical climates (the best judges in these instances) has uniformly shewn to be requisite. If the utmost difficulty is found in prevailing upon

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the Englishman, first entering into tropical climates, to moderate his intemperate practices, to give up some of his European habits, to use the precautionary measures of due clothing, avoiding damps and the like, it can hardly be maintained that he is likely to err from excess of apprehension of disease.

Some very proper directions for diet and general management of health immediately follow: they are such as have been inculcated by Lind, Pringle, Huxham, and many others; but we do not recollect having ever seen them drawn up with more good sense and unaffected plainness. The author is a great advocate for flannel clothing. He says, "The clothing ought to be light, but sufficiently warm to guard against sudden changes from heat to cold. Cotton and flannel are the best articles for dress. Short jackets, with trowsers reaching to the ancles, and fastened by strings or buttons, are most convenient; where stockings are not worn, socks should be used in their stead: the practice of going without shoes is highly improper. Hats with high crowns, or with a handkerchief put in them, are of great service in protecting the head from a hot sun. The use of flannel next the skin cannot be too strongly recommended; for although the first wearing of it may produce some trifling inconveniences, such as, an itching in the skin, and an increased eruption of the prickly heat, yet these seldom last longer than a few days. By constant use, the wearing of flannel becomes remarkably pleasant, and to it many persons are indebted for the preservation of their health and lives in very hot climates. Being defended with flannel, they have suffered no inconvenience, even when exposed to the tropical rains for whole days and nights in open boats, or in the woods; while others, neglecting to use the same precaution, were presently after seized with fevers. During the rainy season, the air often feels raw and chilly; and the changes from heat to cold are more sudden than at other times: but although the good effects of flannel are then more apparent, it is nevertheless extremely beneficial in the dry season also; after violent perspiration, a linen or cotton shirt becomes wet and always cold to the back, which never happens when flannel is worn. Any considerable alteration of the temperature of the air requires a proportionate change in the dress. Those especially who are exposed to the night air should put on additional clothing. In the rainy season, woollen cloaths will be found both comfortable and necessary. It is a very frequent custom with those who have resided long in Africa, to wear only a shirt and trowsers, and in this dress to expose themselves at night when the land breeze blows; or at other times to sit in a current of air: but, however agreeable the present gratification may be, it is always followed by a feverish dry skin, owing to a stoppage of perspiration, and very often proves a cause of violent diseases; so that it is a practice by no means to be imitated by new settlers.'

The inconveniences and accidents of ship-board are next considered; such as sea-sickness, and the best means of guarding against, or

or shortening the period of that distressing event; scurvy, and other circumstances of importance.

The author next proceeds to describe the disorders that occured at Sierra Leone, and which occur in all similar climates. The first and most important class of diseases is fever; its course is known by fatal experience to be dreadfully rapid in these climates, and hence its first obscure symptoms should be watched with anxious care. The author divides the fever of hot climates into the two species of remittent, or what is usually termed emphatically *the fever*; and intermittent, or ague. For the present purpose this distinction may be sufficient. Ague is first described: its symptoms must be familiar to all our readers; we shall therefore only mention the circumstances that apply peculiarly to hot climates. Here the author remarks: "Much mischief has arisen in consequence of an opinion which is too generally entertained, that whenever a cold fit takes place, no danger is to be apprehended; and the patient's friends are confirmed in this opinion, as they observe that after lying down a few hours while the fit is upon him, he has frequently a keen appetite as soon as it is over, and can return to his work as usual. The fits likewise, after several returns, seem to become milder; and sometimes wholly cease for a few days, a week, or a month, and then return only for a short time: this deceives the patient, who thinks the disease is gradually going off, while, on the contrary, it grows more inveterate, and is undermining his constitution. It cannot be too often repeated, that we ought never to neglect, nor think slightly of an ague: by not attending to this maxim, many Europeans on the coast of Africa have been irretrievably injured; for experience sufficiently proves, that the consequences of a neglected or mismanaged ague are, in tropical climates, more fatal than even the effects of a continued fever."

The cure is to be effected by the bark. A simple case of ague is added in illustration; an useful plan, which the author pursues throughout.

He then proceeds to describe the remittent fever, a more dangerous complaint than the former, and the most fatal disease affecting Europeans on the coast of Africa. The following are its symptoms: "The manner in which the fever comes on is different in different people: it frequently appears as a common cold, producing slight head-ache, chilliness, and wandering pains over the body; but is so slight that the patient scarcely thinks himself unwell. With these deceitful symptoms it continues three or four days, until the great weakness of the patient, or some sudden change in the disease, raises an alarm. It is thus, probably, that many persons are said to be carried off by fevers within forty-eight hours: whereas, had the time been reckoned from the first sensation of illness, it would have been six or seven days, or more.

"The patient sometimes feels uneasy for a day or two before any febrile symptoms take place; there is a heat and heaviness of the eye-lids, so that he can scarcely keep them open; or a burning heat

in the palms of the hands and soles of the feet: he feels the skin dry, rough, and uncomfortable; complains of a loss of appetite and bad taste of the mouth; and has a sensation of anxiety, or universal oppression, not easy to be described. The previous sensations, however, are so numerous and varied, that almost every person who has had the disease, is conscious of its future attacks by a set of feelings peculiar to himself. There is sometimes a dark sallow complexion, with a heavy dull eye, and a want of activity, which continue for a day or two, and point out the approach of fever to a by-stander, though the patient makes no complaint himself.

"The fever usually commences with shiverings, not very severe, and sometimes scarcely noticed by the patient. The shivering is succeeded by the symptoms which occur in the hot fit of an ague; but the restlessness and anxiety are in fever generally greater: the pain of the head also is more distressing, and seems often as if produced by a sharp instrument fixed over the eyes: at other times there is a sense of tightness over the forehead, as if the head were bound round with a cord. There is a burning heat in the skin, though to the patient it feels rather cool, which is apt to mislead; but if the hand at this time be applied over the forehead, the heat will be found very great. The patient tosses about, and seeks ease in every part of the bed: sometimes however he lies upon his back, inwardly moaning, without making any specific complaint. In this case, if the hand be applied over the stomach so as to press it gently, the uneasiness is in general increased. There is seldom much delirium, but the patient seems confused, and gives very quick answers to the questions put to him: if he fall into a sleep it is for the most part uneasy, and interrupted by frequent startings.

"When these symptoms have continued with more or less severity for a few hours, a sweat breaks out, first about the neck and breast, sometimes, though seldom, spreading over the whole body: this sweat is more likely to be diffused over the body after the first fit than after any of the succeeding ones. The relief which follows it after the first fit is sometimes so great that the patient thinks himself well, though the head-ache does not go off so entirely as in the ague; and his strength remains greatly depressed. This relief of the symptoms, or remission, lasts only six or eight hours, when another fit comes on, generally a much more severe one. The second paroxysm being seldom preceded by a cold stage, seems to consist only of a hot fit, more especially as the sweating stage, which should follow it, does not appear with any regularity at the second or third return of the paroxysm. In short, all the symptoms become more violent, and the remission less perceptible every succeeding fit. The fever goes on in this manner until the patient's strength is entirely exhausted: a fatal termination seldom happens before the fifth or sixth day, but takes place generally about the eleventh or twelfth day, if the complaint has been neglected in the beginning."

The

The plan of cure laid down is judicious, and agrees in many particulars with that of the most respectable authorities. The author next describes the symptoms of the yellow fever, principally by way of diagnosis from the last mentioned. It does not appear whether he writes in this case from experience, though the example of the too celebrated Boulam fever, shews that the virulence of this disease is not confined to America or the West Indies.

"The yellow fever," he observes, "mostly affects persons just arrived from Europe, or from the northern parts of America; particularly those of a robust, full habit of body, who appear in the highest health. It is most prevalent during the hottest months of the year, and is often a consequence of too violent or too long continued exercise in the sun. It is more frequent on the sea-coast, and in a heated dry sandy soil, than in the interior parts of the country: and in mountainous situations it rarely occurs. The remittent fever, on the contrary, appears chiefly in low swampy situations, in uncultivated places, and stagnant air; and it chiefly attacks such as have resided some time in the West Indies, especially when weakened by previous illness, or of a delicate, relaxed habit of body. The yellow fever attacks very unexpectedly, and with very great violence, while the patient thinks himself in the most vigorous state of health." He then enumerates the symptoms, which we shall not transcribe, as they agree with the description given by Rush and other authorities. Dysentery does not seem to be very frequent at Sierra Leone. Cholera Morbus, being chiefly occasioned by sudden transition from heat to cold, appears not to be unfrequent here; it is described with great clearness. We were rather surprized to find that Tetanus had not been known at this colony; and the Author adds, we doubt whether quite correctly, that "it appears to be scarcely known upon the coast of Africa." It is however well described. Insolation, or the *Coup de Soleil*, is equally unknown in Sierra Leone: but there occurs frequent fulness and throbbing of the temples to Europeans who expose themselves much to the sun.

Several other diseases of the most usual occurrence, both in hot climates and in general among sailors, are added, such as rheumatism, rupture, small-pox, lues, ulcers, wounds, &c. The description is such as can be readily understood; and the mode of practice, generally, can be easily followed. A short Appendix is added, containing a select list of medicines for the coast of Africa, with plain directions for their use. The list of medicines we shall give: the quantity of each is stated to be sufficient for twenty men for one year.

Powder of Peruvian bark, ℔ x. Powder of Angustura bark, ℔ iv. Powder of Colombo, ℔ j.* Powder of Rhubarb, ℥ x. Powder of Ipecacuanha, ℔ j. Tartar emetic, ℥ ii. Antimonial wine, ℥ viii. Opium, ℔ ſs. Laudanum, ℔ j. Calomel, ʒ xii. Sweet spirit of nitre, ℔ j. Oil of mint, ℥ iij. Huxham's tincture of bark, ℥ xii. Spirit of lavender, ℔ j. Epsom salts, ℔ x.

Camphor, ℥ xii. Gentian root, ℔ vi. Cream of tartar, ℔ iv, Castor oil, ℔ vi. Gum Arabic, ℔ iii. Bilious or purging pills, No. 340. Magnesia, ℔ ij. Salt of tartar, ℔ j. Diluted vitriolic acid, ℔ j. Diluted nitrous acid, ℔ ß.

Cerate, ℔ iij. Simple ointment, ℔ iii. Red precipitate, ℥ vi. Blue vitriol, ℥ ij. Blister plaster, ℔ iii. Powder of Spanish flies, ℥ iv. Extract of lead, ℔ ij. Sugar of lead, ℔ j. Spirit of hartshorn, ℔ ij. Flowers of sulphur, ℔ x. Sticking plaster spread on cloth. Tow, lint, rags, &c.

Stores for the Sick. Barley, ℔ xij. Sago, ℔ x. Tapioca, ℔ x. Portable soup, ℔ vi. Vinegar, ℔ viij. Concrete acid of lemon, ℔ ij.

To the above articles should be added, sugar, tea, coffee, molasses, onions.

The general execution of this little work is very respectable, the style is plain, unaffected, and so free from technical terms as to be readily understood by captains of ships, or any intelligent persons not of the profession. The impression of the whole is certainly to lessen the supposed danger to Europeans from tropical climates, a circumstance which at least, will give a favourable idea of the healthiness of Sierra Leone, in which settlement the Author's observations seem principally to have been made.

Illustrations of some of the Injuries to which the Lower Limbs are exposed. By CHARLES BRANDON TRYE, *Member of the late Corporation of Surgeons in London, and Surgeon to the Gloucester Infirmary.* pp. 37, 4to. with plates.

THE chief circumstance which gave rise to the publication of this work, the author states to be the rare opportunity which fell in his way of dissecting two cases, one of dislocation of the femur, the other of fracture of its articulating neck, within a short time after the accidents; an opportunity which certainly does not often happen, since these misfortunes are not of themselves attended with much risk to life. Besides, the author, in his situation as surgeon to a very respectable Infirmary, must have been in the habit of observing many cases of dislocation of the limbs, and the present work shews that he has bestowed much attention on this important subject

The three first plates represent the dislocation of the femur, which was upwards and outwards, the articulating head of the bone being driven under the glutæus major, and by dissection was found to have formed, during the interval of twenty-two days between the accident and the death of the patient, a new ligamentous attachment to the remains of the ligamentum teres. On account of other injuries no attempt was made to reduce the dislocation. The fifth, sixth, and seventh plates are dissections of a case of fracture of the neck of the thigh bone, one of the most uniformly hopeless cases in surgery that ever occurs. The patient, an aged female, died of a bowel complaint six weeks after the accident. On examination, the capsular ligament was found entire and sound, the fractured parts were

were united, but not firmly, by a great luxuriance of callus, the neck of the bone was twisted, the great trochanter being thrown backwards so as to advance the neck of the bone, and to force the little trochanter very near to the head of the bone. The author adds his testimony to that of several other eminent surgeons in the opinion, that no relief can be obtained in the calamitous accident of fracture of the neck of the femur, by splints or any restraining bandage; and, he adds, that he "cannot recollect an adult patient who did not halt for ever, after fracturing the neck of the thigh bone.

Some good remarks upon dislocations are given, and *two* cases are added, which are instructive in the mode of reduction. These we shall quote. "In a strong muscular man, whose thigh had been dislocated upwards and outwards, after fruitlessly trying other methods, the following process succeeded. He was laid prone upon a bed, a sheet was passed between his thighs, and held firmly by two assistants. I then knelt upon the pelvis in order to keep it steady, and resist its being raised up when the extension should be made. Three men then pulled at a towel fastened round the thigh above the knee, and drew it in such a direction as to carry the thigh upwards, that is in relation to the trunk, backwards. I then rested my two hands on the head of the bone, and pushed it downwards and forwards with all my strength, and after a short exertion of our powers in this manner, I directed a gentleman who held the leg to twist the toes suddenly outwards, upon which the head rushed into the acetabulum with a loud noise.

"I tried the same and a variety of other methods in a very muscular middle-aged woman, unsuccessfully, within six hours after her accident. She took half a drachm of Dover's powder at bed time, the succeeding night and the next morning used the warm bath, and was well sweated for two hours before the intended time of repeating the *taxis*. She was laid upon the bed on the sound side. I then pressed my left hand against the head of the bone, one of my knees against its body, a little higher than the middle, and with the other hand. I drew her knee outwards. The leg was supported by an assistant, the knee bent to the right ancle. Three persons made steady the pelvis, by holding a sheet passed between the thighs, and three others made the extension. In this manner our strength was exerted for some time, and I plainly felt the head of the bone move, but the reduction was not compleated. We renewed our attempts in the same manner, except that a gentleman, who became one of the extenders, placed his foot firmly against the arch of the pubis (properly defended) and thereby both increased his power of extension, and at the same time rendered the pelvis more steady and fixed. The force being continued for some time, and my hands and knee being applied in the manner already described, I directed the assistant who supported the bent leg, suddenly to carry the internal ankle towards the other leg and to twist the toes outwards, and then the head slipped into the acetabulum."

The author adds some judicious observations on the reduction of the humerus, in which he recommends, above all other methods, for the surgeon to place a flattish ball or pad in the axilla, and over that a towel, which he ties over his own shoulders, and this must be so short that the operator must stoop considerably when it is fixed over his shoulder and the patient's axilla. The use of this contrivance is to apply to the head of the dislocated bone, the force of the surgeon exerted in raising his body, and to allow of his hands to be employed in directing the humerus and steadying the scapula. This is in fact the old fashioned implement of the kitchen towel and roller, which is known to every surgeon and bone-setter. The author notices the common objection to elevating the head of the bone on the supposition of the resistance opposed by the neck of the scapula, and thinks that the objection is not well founded, if the elevation be correctly made.

Some useful inferences may be drawn from these cases, of the importance of the operator himself taking as great a share in the manual part of the reduction as he well can, and rendering the efforts of the assistants as it were subordinate to his own. A full use should be made of the great purchase which the posture of kneeling or the resistance of the feet gives to a man in these circumstances. Persons who empirically practice bone-setting in the country, with no anatomical knowledge, nor any other advantage than a strong arm, and a kind of rough ingenuity in employing to the best effect their manual powers, though they often do irreparable mischief by their unregulated violence, frequently acquire great, and probably deserved reputation in this branch of surgery. Those, therefore, who have professional skill, should not hesitate to avail themselves of those methods, however rough and unsightly they may appear, which experience shews to possess great power, and which their anatomical knowledge enables them to regulate with safety.

An Inquiry into the Efficacy of Oxygen in the Cure of Syphilis. To which are subjoined, a few general Observations on its Application in various other Disorders. By C. PLATT, *Surgeon to the New Finsbury Dispensary, and Member of the Royal College of Surgeons, London.* 8vo. pp. 100. 1803.

As every Author must be supposed to understand his own views and motives, in publishing at least, as well as any other person, we consider it fair, in general, to give every one an opportunity of stating them in his own way. Mr. P. thus modestly introduces his pamphlet.

"The liberty I take to claim the indulgence of the public on a subject that hath been so ably discussed, may, perhaps, be considered rather arrogant, if not superfluous. In the prosecution of this design, however, I had in contemplation two objects; the one, to ascertain, by reference to practical experiments, the antidotal power of oxygen in syphilitic complaints; and the other, should my success not be commensurate with my expectation, to investigate

gate the cause of such contrariety of sentiment among practitioners, who had the same object in view.

"About the termination of the fifteenth century, it is conjectured, the syphilitic disease was introduced into Europe from some of the new-discovered American islands. From that period to the present, much as we are indebted to the united abilities of so many intelligent writers who have favoured the world with their sentiments on this subject, still it is to be lamented, that a multiplicity of perplexing cases daily occurring, resist the common and generally adopted mode of treatment. Whether the want of more powerful remedies, or a more judicious administration of those already known, be the cause of this failure, is a difficulty often experienced, but not yet satisfactorily explained.

"No one, I am persuaded, will deny the advantage of frequently collecting the scattered though imperfect ideas that chance, or the labour and ingenuity of individuals, may have produced; and by occasionally forming a summary of these, it would be lamentable indeed, if some useful hint could not be derived, or some practical information inculcated.

"Our attention hath of late been very commendably excited by an ingenious mode of exhibiting oxygenous substances, as a remedy in eradicating syphilitic complaints. These saline substances unquestionably possess great activity, and are capable of producing some important changes in the animal economy; but whether the extent of the testimony already promulgated in their favour, entitles them to rank as specifics, so strenuously contended for by their advocates, can only be determined by an impartial investigation. Candour and truth compel me to observe, that the result of some experiments, carefully conducted, do not incline me to draw so favourable a conclusion. Having, from a variety of sources, acquired a strong opinion in favour of the antisyphilitic quality of the oxygenous substances, I neglected no opportunity that occurred, in the pursuit of so important a subject; and with what success, will be better determined after a perusal of the subsequent sheets."

The Author devotes the first twenty pages to a description of the principal symptoms of Lues, and a discussion of the much agitated question respecting the identity of the VIRUS in all the varieties of the disease. He considers the VIRUS the same in all; and imputes the variety of infection or symptoms, to the varied state or predisposition of the patient. Mr. P. next presents his Readers with a selection of cases, in which the oxygenated substances were employed without success.

This pamphlet appears to us to be written by a gentleman anxious to improve the scientific part of Surgery; and we are of opinion that it will be read by practitioners with approbation.

Useful

Useful Hints to those who are afflicted with Ruptures; and on the Empirical Practices of the present Day. By T. SHELDRAKE. 8vo. pp. 160. London, 1803.

EVERY attempt to alleviate human sufferings deserves attention; and although personal interest may be suspected of dictating some of the reasoning, yet the attempt should not, merely on that account, be entirely discouraged. Mr. S. thus explains his designs:

"The following observations were composed for the information of those persons, whose knowledge of ruptures was limited to the fact that they themselves were afflicted with the disease. Such may generally be divided into two classes, viz. those to whom the disease is an object of terror, and those who think it is of no consequence. The former torment themselves with needless apprehensions, and embitter their lives with perpetual anxiety to avoid evils that are created by their own imaginations; while the latter frequently betray themselves into imminent danger by their imprudent negligence.

"To re-assure the one, to caution the other, and to point out to both the only course that will place them in safety from the effects of this disease, are the objects which, it is hoped, may possibly be effected by this publication. It contains what may be called a popular account of the disease; i. e. such an account as professional men will allow to be true, and patients may understand, without possessing that information which professional men have on the subject.

"Besides investigating, in a general way, the principles on which trusses are applied to produce their effects, I have attempted to ascertain, to what kind of ruptures peculiar species of trusses may be best applied. This attempt must, from the nature of the subject, be imperfect; but, I trust, so much has been said as will demonstrate that no one kind of truss can be applicable to all ruptures indiscriminately; and this demonstration will prove the absurd pretensions and mischievous tendency of trusting on this subject to that description of persons, who having acquired the knack of making trusses in some particular manner, apply those trusses, indiscriminately, to every patient who comes in their way.

"Works like this generally fall into the hands of those who do not apply regularly for professional advice. To make it useful to this description of readers, I have inserted such information as can, without impropriety, be given in writing, with respect to the patient's management of himself, and the application of the truss. Much advice of this kind must be varied, according to circumstances, and adapted to individual cases; yet, as a kind of general system, if such a term may be used, I hope that what is contained on that head in the following pages will not be found entirely useless. In short, though it is possible that, from the various objects it embraces, few will take the trouble to read the whole, yet I am not without hopes that, whether the patient's object is to

obtain

obtain a just account of the various trusses that may be offered to his notice, or a rational idea of the principles on which trusses should be applied, to afford the best chance of being useful, he may find the following little work not entirely beneath his notice; and, on this account, though not without knowing it has many defects, and believing it may have many more than I actually know of, I cheerfully leave it to its fate."

MEDICAL AND PHYSICAL INTELLIGENCE.

[FOREIGN AND DOMESTIC.]

The VACCINE INOCULATION is fully established throughout all the British Presidences in India. Dr. JENNER has been informed, that at Madras, the children of every European in that settlement have been already inoculated. From Bengal he also learns, that the Hindoos receive it with the greatest ardor, from the veneration these people pay to the cow, as well as for the security they find in it from the Small-pox.

Dr. JENNER has also received a very curious and interesting piece of intelligence from Dr. SACCO, of Milan, whose elegant work on Vaccine Inoculation is well known. Dr. Sacco was among those who not only doubted the validity of Dr. Jenner's opinion of the origin of the Cow-pox, but imagined he was in possession of facts sufficient to overthrow it completely. However, a singular circumstance happened, to convince the Doctor of the fallacy of his former observations. One of his coach-horses had the common malady of the heel; his coachman attended to the sore, and, in consequence, exhibited several pustules upon his hands, with all the characteristic marks of those derived from the cow. It was deemed too late to take matter from them for Inoculation; but soon after this, a similar case occurred on the fingers of the coachman of another gentleman in Milan. From these pustules Dr. Sacco inoculated nine children and a cow. Three of the children were infected, and had the disease exactly in the same way as if it had been communicated from the cow. With matter taken from these children, other inoculations were performed; and at the time this account was transmitted, it had reproduced itself correctly a fourth time. Dr. Sacco also adds, that he has inoculated six other children with the matter of grease, and on two of them it produced pustules with all the genuine characters of the Vaccine. He intends giving a coloured plate of the disease in the foot of the horse.

M. Basse gives the following as the best method of preparing muriatic æther with the simple acid:—Melt marine-salt in a crucible, and keep it in fusion an hour, or till the whole of the water of crystallization be dissipated; put twenty ounces of this salt into a tubulated retort, adapt to it a curved tube, and plunge the tube to the bottom of a bottle with two necks, into which have been poured ten ounces of alkohol prepared by mixing, in a retort, three parts of highly rectified spirit of wine with one of potash, melted and pulverised whilst hot, and distilled till it is diminished one-half. When the whole is well luted, pour into the retort, in very small quantities at a time, ten ounces of highly concentrated sulphuric acid. After each introduction of acid, close the tube carefully, and put in no more acid till the salt has ceased bubbling. The cork of the other neck of the bottle must be taken out from time to time, to suffer the air condensed above the alkohol to escape. After the acid is introduced, place the retort on a sand-bath, and heat it gradually, till all the muriatic acid be expelled. During this part of the operation, care must be taken frequently to cool the bottle containing the alkohol, by wrapping a wet cloth round it. The alkohol thus charged with acid, is then put into a retort, and distilled to one-half; shake the distilled liquid with alkaline-ley, to carry off the acid, decant the æther which is found on the surface, and keep it in bottles well corked. From the above-mentioned quantities two ounces and a half of æther are usually obtained.

Mr. Buchholz, of Erfurt, has made a series of experiments, in order to ascertain the existence of cobaltic acid, or whether the metal of cobalt is really capable of being changed into an acid by its combination with oxygen, as has been asserted by Signor Brugnatelli, on whose authority the cobaltic acid was adopted. The results of these interesting experiments, which proved to be a negative of this doctrine, are the following:

1. Cobalt is not to be changed into the state of an acid, by treating it with any kind of nitric acid, or according to any known method.

2. It is likewise not to be effected, according to Mr. Scheele's method, by means of muriatic and nitric acid; the former having a greater affinity to oxygen than cobalt.

3. The supposed cobaltic acid of Signor Brugnatelli is most probably nothing but a disguised arsenic acid, or a combination of arsenic acid with ammonia and some oxyd of cobalt; at least such a composition produced the same phenomena, which Brugnatelli considers as characteristics of his cobaltic acid.

4. On treating cobalt, or oxyd of cobalt, which is entirely free from arsenic, with nitric acid and ammonia, no such combination can be obtained, possessed of the characteristics ascribed by the Italian chemist to his cobaltic acid.

5. These

5. These experiments may serve to prove how necessary it is to refer any new discovery of this kind to the test of repeated experiments, before it is admitted as certain.

Mr. TROMSDORFF gives the following method for obtaining metallic cobalt perfectly pure. "Mix a pound of best saffre with four ounces of nitrat of potash, and two ounces of pulverized charcoal, and throw the mixture in small portions into a red-hot crucible; repeat the same operation three times: at the third time leave the matter exposed to a white heat; remove it rapidly, and add four ounces of black flux: place the crucible in the furnace, and let it remain perfectly red-hot for an hour; when cold, separate the reduced part of the cobalt, which, in consequence of the treatment to which it has been subjected, has lost great part of its arsenic and iron; it must then be mixed with thrice its weight of nitrat of potash, and the mixture deflagrated in small portions in a red-hot crucible. By this last operation the iron is completely oxydated, the arsenic is converted into acid, and taken into combination by the potash. By levigation with warm water, all the saline parts are carried off, and the oxyd of cobalt is separated by the filtre. The oxyd is to be dissolved in a suitable nitric acid, and the solution filtered."

Cit. DELUNEL has contradicted the opinion of those who think the distilled waters of inoderous plants useless in medicine, and not differing from common distilled water; and he relates two instances, in order to prove his assertion. The distilled water of borage, (borago officinalis) on being evaporated, obtained an orange colour, and the residuum had a peculiar smell, like that of artichokes. In another experiment, the residuum became of a straw yellow colour, and it was precipitated by ammonia. On suffering the water to stand for about a month in a bottle that was well shut, a strong smell of hepatic gas was perceived on opening the bottle; whence he thinks it may be used as a mineral water. The water of solanum nigrum, L. or common night shade, emitted the smell of opium, but disappeared on the evaporation being continued. The red extract contained a considerable portion of nitrat of kali.

Mr. SCHRADER, Apothecary at Berlin, has made the interesting discovery, that the Prussic acid is contained in the aqua laurocerasi, and the distilled water of the flowers of the peach-tree, as likewise in the infusion of bitter almonds. He was led to this discovery by observing, that the Prussic acid has the quality common with those distilled waters and infusions, of killing animals; and that the Prussic acid, as well as the abovementioned water, possesses the smell of bitter almonds. This discovery is likely to be very advantageous to medicine as well as to the arts; and the author thinks it probable, that what is hitherto called the narcotic principle

ciple may be nothing but the Prussic acid; and in order to prove this conjecture, he intends making experiments with opium, hyosciamus, belladonna, and the other narcotics.

The new metal which has been announced to the public, under the name of *palladium*, is found to be a composition of two parts of platina and one of mercury.

Mr. W. HENRY has published a third edition of his excellent Epitome of Chemistry, revised and considerably enlarged.

Dr. PERCIVAL, of Manchester, has in the press, and nearly ready for delivery, a work which will comprehend a General System of Medical Ethics. The outline was sketched several years ago, and constitutes the code of regulations by which the Faculty of the Manchester Infirmary agreed to regulate their official conduct, and their intercourse with each other. But the extended work will be addressed to the Medical Profession at large; and will include also the duties of such of its members as are unconnected with public establishments of charity.—The aphoristic form has been chosen, as the best calculated to define with precision those principles of urbanity and rectitude which should govern the conduct of the members of the medical profession to their patients and to each other. Copious Notes and Illustrations will form an Appendix, and will complete the plan of the undertaking.

Mr. DEWAR has a work in the press, which will be published in a few weeks, entitled, "Observations on Diarrhœa and Dysentery, as these Diseases appeared in the British Army, during the Campaign in Egypt in 1801. To which are prefixed, A Description of the Climate of Egypt, and a Sketch of the Medical History of the Campaign."

To CORRESPONDENTS.

The Editors will thank Mr. Smith for the description of his improvements of the Trephine; they are in possession of the Drawing.

Mr. Marson's Hints are worthy of the public attention, but the style is too diffusive in its present form.

Dr. Adams's and Mr. Luscombe's Communications are received.

ERRATA.

Vol. ix. Page 427, line 12, *read* ℥viiss. *vice* ℥iss.
432, 19 from bottom, *read* Hurworth, *vice* Husworth,
433, 6 ditto, *read* Vol. ix. *vice* iv.
Vol. x. Page 52, running Title, *for Apoplexy, read Epilepsy.*